

CURRICULUM VITAE

Shashi Kant, Ph.D.

PERSONAL INFORMATION

Address 7492 Tormes, Grand Prairie -75054, Texas, USA
Phone: 214-438-7974 (Mobile)
E-mail: shashikantpgi@gmail.com

ACADEMIC RANK AND POSITION

Primary: Professor (Tenured), Department of Medicine, University of Texas at Tyler School of Medicine, Texas, USA.

Secondary: Associate Professor, Department of Cellular and Molecular Biology, University of Texas Health Science Center at Tyler, Tyler, Texas, USA.

Phone: +1-903-877-7684; E-mail: Shashi.kant@uthct.edu; Shashi.kant@uttyler.edu

Courtesy faculty appointment:

Clinical Associate Professor, Department of Pharmacy Practice, Texas Tech University Health Science Center, Dallas, Texas; June 2021-present

PREVIOUS FACULTY AND MAJOR APPOINTMENTS

- Professor (Term-Tenure), Department of Medicine, University of Texas at Tyler School of Medicine, Texas, USA. Sept 2025 -
- Associate Professor (Term-Tenure), Department of Medicine, University of Texas at Tyler School of Medicine, Texas, USA. Dec 2022 - Aug 2025
- Associate Professor (Tenure-track), Department of Pulmonary Immunology, UT Health Science Center at Tyler, Tyler, Texas; Apr 2020 - Dec 2022
- Associate Professor, Texas Tech University Health Science Center, Dallas, Texas; Aug 2019-Mar 2020
- Assistant Investigator, Baylor Institute for Immunology Research, Dallas, Texas; Nov 2014 - Jul 2019
- Assistant Professor, Department of Immunology, University of Texas Southwestern Medical Center, Dallas, Texas; Jan-Nov 2014
- Research Scientist, Office of Global Health, University of Texas Southwestern Medical Center, Dallas, Texas; May 2013 - Dec 2013
- Postdoctoral Researcher, Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, Texas; Jan 2008 – Apr 2013
- Research Fellow, Department of Microbiology, SGP GIMS, Lucknow, India; Mar 2004 - Nov 2007

Past Courtesy faculty appointment:

- Adjunct Assistant Professor, Department of Immunology, University of Texas Southwestern Medical Center; Nov 2014 - Dec 2021
- Adjunct Assistant Professor, Baylor University Institute for Biomedical Studies, Waco, Texas; (Sept 2015-Jul 2019)

EDUCATION

a. Graduate Education:

- **Bachelor of Science**, Lucknow University, Lucknow, India; 1994
- **Bachelor of Law Literature**, Lucknow University, Lucknow, India; 1997
- **Master of Science**, BBA University, Lucknow, Lucknow, India; 2004
Dissertation title: Isolation and genotyping of Helicobacter pylori from dental plaque: an extra gastric reservoir.
Supervisors: Prof. A. Ayyagari & Prof. SK Dwivedi
Executive MBA (Health Care Management), Soules College of Business, UT Tyler, Tyler, Texas, USA. 2024
Capstone Project title: An academic scientist's transition to a biopharmaceutical entrepreneur.

b. Ph.D.: BBA University, Lucknow, India; 2009

Thesis title: in vitro and in vivo study of host responses induced by ethambutol resistant Mycobacterium tuberculosis.

Supervisors: Prof. A. Ayyagari & Prof. SK Dwivedi

c. Postgraduate Training:

Postdoctoral fellow; Jan 2008 to Apr 2013

Supervisor: Dr. Tawanda Gumbo, University of Texas Southwestern Medical Center, Dallas, Texas, USA

RESEARCH GRANTS

Active

1. Short course combination regimens for treatment of *Mycobacterium avium* pulmonary disease: a translational bench-to-bedside approach.

1 R01 AI179827-01, (PI: Kant) 12/08/2023-11/30/2028

NIAID \$ 2,772,116

This proposal seeks to define new regimens of drugs at optimal dose combinations to cure pulmonary *Mycobacterium avium* complex (MAC) infections for which current therapeutic regimens are empirical and clinical trial evidence to guide precision dosing is lacking.

2. PK/PD optimized combination regimen for treatment of *Mycobacterium avium* pulmonary disease.

Role: PI 11/1/2023-10/31/2026 (NCE)

Cystic Fibrosis Foundation. \$299,763

3. NTM Research and Education grant, UT Tyler (PI: Kant). 2023-ongoing; \$80,000.

4. Unrestricted Education Grant, Paratek Pharmaceuticals. 2026-ongoing; \$8500.

PENDING

1. Medical Education Grant, INSMED. Sept, 2026; \$45,000.

2. Preclinical development of inhaled teixobactin to treat pulmonary *Mycobacteroids abscessus* infections. NIAID; SBIR, Role- Co-I, (Requested total cost \$2,170,068) [Sept, 2026].

3. CLEAR: Chemotherapy for Lung disease caused by *Mycobacterium avium* complex; Effective and Rapid. R01, Role:PI, Paratek Pharmaceuticals. (Aug, 2026).

4. Interdisciplinary NexGen TB research Advancement Center (IN-TRAC). NIH/NIAID (June 2026).

5. Breathing Cure: novel analogs, delivery vehicles, and delivery methods to treat *Mycobacterium abscessus* pulmonary disease. UT Tyler School of Medicine Seed Grant, June 2026.

6. Bedaquiline resistance profiling to inform probably phenotypic susceptibility to *Mycobacterium tuberculosis*. UT Tyler School of Medicine Seed Grant, June 2026.

7. Optimizing double Beta-lactam-beta-lactamase inhibitor combination for treatment of *Mycobacterium abscessus* pulmonary disease. UT Tyler School of Medicine Seed Grant, June 2026.

8. Deciphering novel drug resistance pathways in *Mycobacterium tuberculosis*. 2026 Ideas Grants. Application ID: 2058586. PI – Vitali Sintchenko, Role: Co-I, University of Sydney, Australia. (National Health and Medical Research Council, Australian Government; Requested Sub-Award total cost \$73,480)

RECENTLY SUBMITTED, NOT FUNDED

1. Pharmacokinetic/Pharmacodynamic Optimization of Antimicrobial Regimens for *Mycobacterium abscessus* pulmonary disease (OPTIMAB). R01, Role:PI, NIAID. (Requested total cost \$3,432,046)

2. CLEAR: Chemotherapy for Lung disease caused by *Mycobacterium avium* complex; Effective and Rapid. R01, Role:PI, Paratek Pharmaceuticals. (No direct Cost, only drugs for the proof-of-concept clinical study).

3. De-Risking Clinical Trials of Dual β -Lactam and β -Lactamase Inhibitor Therapy for *Mycobacterium abscessus*. R21, Role:Co-I, NIAID. (Requested Sub-Award total cost \$104,299)

4. Preclinical Proof-of-Concept Studies for Pharmacokinetics and Pharmacodynamics Optimization and Repurposing Known Drugs to Optimize Treatment of Buruli Ulcer (SPARK). 1R21TR006176-01. (Requested total cost \$393,072). [Not Discussed].

5. Preclinical development of inhaled teixobactin to treat pulmonary *Mycobacteroids abscessus* infections. NIAID, 1R44AI200640-01; SBIR, Role- Co-I, (Requested total cost \$2,170,068) [Discussed, Not Funded].
6. Preclinical proof of concept pharmacokinetics/pharmacodynamics studies to optimize treatment of Buruli ulcer. TR005147-01A1; R21, Role: PI, NIH NCATS (Requested total cost \$393,072). [Not Funded].
7. DREAM - Developing Regimens for Effective Antimicrobial therapy for *Mycobacterium abscessus* lung disease. Role: PD/PI, 1R01AI195839-01, NIAID (Requested total cost \$3,353.713) [Not Discussed].
8. Multi-State Study Examining Nontuberculous Mycobacterium (NTM) Disease Burden Using Hospital Discharge Data. Role: PD/PI, AN # 5122318NIHLBI (Requested total cost \$309,727). [Not discussed].
9. Interactions between *Mycobacterium ulcerans*, skin microbiome, and nutrition in Buruli ulcer healing for improved treatment strategies [MicroBUiome-N Study]. Role: Co-I, Dioraphte Foundation Proposal for Skin Neglected Tropical Diseases, The Netherlands (CfP-NTD2025). (Requested total cost €752,231). [Not Funded].
10. Establishing preclinical pharmacokinetic/pharmacodynamic evidence-base to inform and develop optimized treatment regimens of *Mycobacterium abscessus* pulmonary disease. 1R01AI182164-01A1, NIAID (Requested total cost \$3,236,955). (Discussed, Not Funded).
11. Diagnostic and Multimodal Therapeutic Strategies for AMR Gram-Positive Bacteria. RFA-AI-23-065, Centers of Excellence for Translational Research (CETR) (U19 Clinical Trial Not Allowed). Participating institutions: Northeastern University, UT Health Science Center at Tyler, Rutgers New Jersey Medical School, Novobiotics, LLC, Microbiotix. (Submitted April 2024, [Not Discussed])
12. Carbapenem-assisted regimens for multi-drug-resistant tuberculosis (CARE-TB) in children. 2 R01 HD099756-06 (Renewal of R01 AI179827-05, Not Discussed].
13. Novel engineered bacteriophage for the treatment of drug-resistant *Mycobacterium tuberculosis* infections. RO1, PI-Role (Co-I) NIAID (Requested Total Cost \$3,530,000) [Submitted Sept 2024, not discussed].
14. Uncovering the mechanisms of resistance to novel anti-tuberculosis drugs using multi-omics. 2024 Ideas Grants. Application ID: 2037194. PI – Xiaomei Zhang, Role: Co-I, University of Sydney, Australia. (National Health and Medical Research Council, Australian Government)
15. TB-ACQUIRE: A multi-omics approach to unravel tuberculosis drug resistance acquisition. 2025 Ideas Grants. Application ID: 2046687. PI – Xiaomei Zhang, Role: Co-I, University of Sydney, Australia. (National Health and Medical Research Council, Australian Government)

COMPLETED

1. **PK/PD-optimized cephalosporin combination regimens for children with MDR-TB.**
 1R01HD099756 (PI: Kant) 9/1/2019-8/31/2026
 NIH/NICHD \$1,629,565
 The major goal of this project was to develop an oral, child-friendly treatment regime by repurposing cephalosporin in combination with fluoroquinolone and oxazolidinones.
2. **Oral short-course pan-TB regimen with optimal dose combination of Omadacycline, delamanid, and OPC-167832.** (PI: Kant). UT Tyler Internal Grant Award, 06/01/2023-05/31/2024; \$30,000.
3. **The effect of VraS mutation on *S. aureus* gene expression and signaling network crosstalk.** (PI: Abdelaziz; Co-I: Kant) UT Tyler Internal Grant Award, 06/01/2023-05/31/2024; \$30,000.
4. **Omadacycline drug susceptibility testing against *Mycobacterium avium* complex and *Mycobacterium kansasii*.** *Contract terminated due to disagreement on timeline)*
 Role: PI 01/02/2024 to 09/30/2024
 Paratek Pharmaceuticals \$104,574
5. **Reinforcing old warriors to treat *Mycobacterium kansasii* in shorter duration.** [Role: PI]
 1R21AI148096 (PI: Kant) 9/1/2020-8/31/2023
 NIH/NIAID \$412,862 (Direct)
 The major goal of this project was to optimize the dose of isoniazid, rifampin, and ethambutol for the treatment of *M. kansasii*.
6. **NTM Research and Education grant** from Executive Vice President of UT Health Affairs. (PI: Kant). 2022;

\$15,000.

7. Novel short course chemotherapy for treatment of *M. kansasii*.

2018 ATS Foundation Research Grants (PI: Kant) 01/01/2019-12/31/2020

American Thoracic Foundation \$50,000

The major goal of this project was to design an oral treatment regimen combining rifampin with moxifloxacin and tedizolid with the aim to shorten the therapy duration to less than one year.

8. University of Texas System STARS Award Sep 2020 to Aug 2022 \$250,000

The grants award was to set up the BSL2/BSL3 laboratory and procure the equipment required for my research at the UTHCT, Tyler, Texas.

9. Diagnosis of the Period of Infectiousness in Drug-Resistant Tuberculosis, 1R01AI116175-01

Funding agency: NIAID; Dates of funding: 01/01/2015-12/31/2019 Role: Co-investigator

10. Hollow Fiber System Sub-Grant, Critical Path to TB Drug Regimen (HFS-TB), OPP1031105

Funding agency: Critical Path Institute; Dates of funding: 10/1/2013-07/31/2019; Role: Co-investigator

11. Quantifying infectiousness of undiagnosed tuberculosis cases and the impact of enhanced community based active case finding strategy using novel diagnostic tools – a randomized controlled trial. OISE-16-62106-1 04/22/2016 – 04/30/2019

Funding agency: Civilian Research & Development Foundation (CRDF); Role: Co-investigator

12. Pharmacometric Optimization of Second-Line Drugs for MDR Tuberculosis Treatment.

1R01AI116155-01

Funding agency: NIAID; Dates of funding: 11/01/2014-10/31/2019 Role: Co-investigator

13. Improving Combination Chemotherapy of Tuberculosis: A Computational Approach,

1 R01 AI125454-01; Dates of funding: 7/01/2016-06/30/2020

Funding agency: NIAID Role: Co-investigator

14. A human lung-orientated approach to correlates of risk in tuberculosis-The TB-HART study, R5 576

889; MRC (South Africa); Dates of funding: 2015-2019 Role: Co-investigator

15. Short Course Therapy for MDR-TB Based on PK/PD Answers for Biological Variability,

1R56AI111985; Dates of funding: 8/01/2014-07/31/2016

Funding agency: NIAID Role: Co-investigator

OTHER FOREIGN SUPPORT

- Joint supervision of an MD/PhD student (Vanessa Bermudez Vogensen). Supervisor Dr. Onno W. Akkerman, Department of Pulmonary diseases and Tuberculosis, University Medical Center Groningen, The Netherlands. Thesis title “PK/PD of moxifloxacin and levofloxacin in combination with rifampicin in isoniazid-resistant *Mycobacterium tuberculosis* using the hollow-fiber system model”. 2023.
- APRC 2024 (The 9th Asia Pacific Region Conference of the International Union Against Tuberculosis and Lung Disease), April 26-29, 2024, at the Taipei International Convention Center (TICC) in Taipei, Taiwan, supporting air travel, registration, and lodging while attending the conference as an invited speaker.
- MICROCON2023, organized by KGMC, Lucknow, India (Nov 24-26, 2023), supported local travel while attending the conference as an invited speaker.
- University of Cape Town, South Africa support and sponsorship for conferences and research work in South Africa for human TB cavity work, sponsor of graduate students, and antimicrobial resistance work [CAMRA, and South African MRC based funding]: 2014-2019

HONORS and AWARDS

- 2025** Nomination for membership of UT Tyler Award Promotion & Tenure Committee
- 2025** UTTSOM Award for Excellence in Basic Research
- 2024** Nomination for the Dean's Award for Outstanding Achievement
- 2023** Term-Tenure, approved by the Board of Regents of The University of Texas System.
- 2023** Membership to the National Society of Leadership and Success (NSLS), as recognition of an exemplary student by UT Tyler.
- 2023-24** Scholarship from the Office of Faculty Affairs and Professional Development for EMBA (Health Care Management) at UT Tyler.
- 2020** UT System Rising STAR Award.
- 2018** ATS Foundation/INSMED Research Award in nontuberculous mycobacteria (NTM) lung diseases
- 2014** Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC) press release.
- 2009** Postdoctoral travel award, American Society for Microbiology.
- 2009** Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC) press release.
- 2007** Corporate Activities Program student travel award, American Society for Microbiology.
- 2007** International Travel Award, Council of Science and Industrial Research, India.
- 2007** International Travel Award, Ministry of Science and Technology, Government of India.
- 2006** Best paper of the year in Mycobacteriology, Indian Association of Medical Microbiologists.
- 2005** Junior Research Fellowship, Indian Council for Medical Research, India.

6. PROFESSIONAL MEMBERSHIPS AND SOCIETIES

Professional organizations

- Infectious Diseases Society of America, 2022-
- American Society for Microbiology, 2007-
- American Thoracic Society, 2018 -
- American Association of Colleges of Pharmacy, 2019-2021
- Indian Association of Medical Microbiologists, 2005
- Working Group on new TB drugs (WGND), Stop TB Partnership, 2014-
- RePORT India Phase II Basic Science Working Group, 2021-
- NTMnet, Nontuberculous Mycobacteria Network European Trials Group, Nov 2024-
- National Tuberculosis Coalition of America, 2025-

Scientific grant reviews

- Special Emphasis Panel/Scientific Review Group, PROGRAM PROJECTS: TUBERCULOSIS RESEARCH UNITS (TBRUS) ZRG1 IIDA - L (40), 2026
- Special Emphasis Panel/Scientific Review Group 2026/01 ZRG1 IIDA-U (40) P. Combating Antibiotic-Resistant Bacteria Interdisciplinary Research Units (CARBIRUs), 2025
- Special Emphasis Panel/Scientific Review Group ZAI1-LG-M-M1: NIAID Investigator-Initiated Clinical Trials for Infectious Diseases, 2025
- Anti-Infective Resistance and Targets (AIRT) study section. 2024
- NIH Study Section 097 ZAI1-JBS-M-C1 [SBIR Contract Solicitation (PHS 2021-1) for Small Businesses]; 2023
- Topics in Drug Discovery and Molecular Pharmacology. DCAI-U(90) DMPA. 2023
- NIAID Investigator Initiated Program Project; 2023
- Special Emphasis Panel/Scientific Review Group 2023/01 ZAI1 DF-W (J1) 1; 2022
- NIH Study Section (Drug Discovery and Mechanisms of Antimicrobial Resistance); 2022, 2023
- NIH Study Section (Maternal and pediatric pharmacology and therapeutics); 2021-
- NIH Study Section Small Business: Anti-infective Therapeutics Special Emphasis (AIDC 12); 2021
- Deutsche Forschungsgemeinschaft (DFG), German Research Foundation; 2021
- NIH Early Career Reviewer (Center for Scientific Review, NIH); 2017-2021

- United Kingdom-Medical Research Council; 2016-18
- South Africa-Medical Research Council; 2017

Global expert panel (The IJTLD Clinical Standards for Lung Health 2022)

- IJTLD clinical standards on selection and management of drug dosing in TB treatment.
- IJTLD clinical standards on pulmonary tuberculosis.
- IJTLD Clinical Standards for the management of adverse events during TB treatment.

Ad-hoc Reviewer of biomedical journals and others

- European Respiratory Journal (2012-)
- Antimicrobial Agents and Chemotherapy (2012 –)
- Journal of Antimicrobial Chemotherapy (2014 –)
- Annual Biomedical Research Conference for Minority Students (ABRCMS), American Society for Microbiology (2011- 2020)
- Journal of Infectious Diseases and Immunity (2011- present)
- Lancet Microbe (2020-present)
- Frontiers Molecular Biosciences 2020-)
- Frontiers Pharmacology (2020-)
- Clinical Infectious Diseases (2014-)
- Spectrum in Microbiology, (2022-)
- International Journal of Antimicrobial Agents and Chemotherapy (2019-)
- Global Journal of Antimicrobial Resistance (2020-)
- International Journal of Tuberculosis and Lung Diseases, 2021-
- Tuberculosis; 2020-

Session moderator services

- ATS TX Fall 2025, Session Chair: Disease Pathogenesis and Bioinformatics

Committee member

Institutional

- Co-Chair & Organizer, 2026 UT Tyler Symposium on Mycobacteria
- Organizing Committee Member, 41st SBEC, September 2025.
- Chair, Hazardous Chemicals Research Review Committee, 2025-
- Member, Infectious Organism Research Review Committee, 2025-
- Member, Faculty Development Team for Dr. Amanda Morris, Assistant Professor, UT Health Science Center at Tyler (Sept 2025-)
- Member, Technical Advisory Committee (TAC) to the Executive Advisory Board for the Institute for Health Innovation, Data Science, and Research (2024-)
- Member, Research Enterprise Council Capital Equipment Committee, UTHSCT (2024-)
- Member, Ad-hoc committee to investigation need for a New Academic/Research Department, 2024
- Member, UTTSOM Faculty Awards and Honor Committee (2024-27)
- Member, UTTSOM Scholarly Project Advisory Committee (2023)
- Member, UT Tyler Institutional Research Integrity Committee (2022-2025)
- Member, Interview with faculty candidates for School of Medicine (2023-)
- Member, Faculty Development Team for Dr. Ayman Hamouda, Assistant Professor, College of Pharmacy, University of Texas at Tyler (Jan-Sept 2022)

- Member, Faculty Development Team for Dr. May Abdelaziz, Assistant Professor, College of Pharmacy, University of Texas at Tyler (Sept – Dec 2021)
- Member, Faculty Development Team for Dr. Amanda Morris, Assistant Professor, Department of Cellular and Molecular Biology, University of Texas Health Science Center at Tyler (Sept 2025-)

International

- Member, Pipeline report to inform prioritization process of PADO/CADO for TB 2026, WHO
- Member, “Drug Intervention and Selection Committee” of the FORMAT clinical trial for *Mycobacterium abscessus* (ClinicalTrials.gov Identifier: NCT04310930). 2023-
- Member of the Planning Committee, American Thoracic Society PI-TB Assembly, 2025-
- Member of the Planning Committee, American Thoracic Society PBTG Assembly, 2025-
- Member of the Planning Committee, Texas Chapter, American Society for Microbiology, 2025
- Member of the Planning Committee, 41st Southern Biomedical Engineering Conference, 2025
- Member of the Infectious Disease Working Group for the Prioritization of Therapeutic Research Needs for Pregnant, Postpartum, and Lactating (PPL) Women, NICHD, 2025-

EDUCATIONAL ACTIVITIES

- Microbiology Group meeting and Journal Club, UT Tyler, School of Medicine, Sept 2025-
- BIOT 6311 Biotechnology, Fall 2022, 2023, 2024 University of Texas at Tyler, Tyler, Texas.
- BIOT 5132 Critical Reading, Fall 2020, 2021, University of Texas at Tyler, Tyler, Texas.
- Defenders and Invaders. UT Tyler School of Medicine, 2024. (WK6: Biology of tuberculosis and non-tuberculous mycobacterium infections, Antibiotics and antibiotic resistance in TB and NTM: Why good treatments fail; WK7: Overview of bugs and drugs).
- UT Tyler School of Medicine Medical Education Journal Club, 2024.
- Immunology of infectious diseases (Mycobacteria), Immunology Graduate Program, Division of Basic Science, Southwestern Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center; 2014, 2015, 2019, 2020, 2021.
- Journal Club and Faculty Seminar, University of Texas at Tyler, Tyler, TX (2020 -)
- Infectious Diseases journal Club, Div. of Infectious Diseases, University of Texas Southwestern Medical Center; (2008-2013)
- Journal Club and Seminar, Baylor Institute for Immunology Research; (2014-2018)
- Microbiology Journal Club, SGP GIMS, Lucknow, India; (2004-2008)

MENTORSHIP

Junior Faculty

- Dr. Amanda Morris, Assistant Professor, Department of Cellular and Molecular Biology, University of Texas Health Science Center at Tyler (Sept 2025-)
- Dr. Ayman Hamouda, Assistant Professor, College of Pharmacy, University of Texas at Tyler (Jan-Sept 2022)
- Dr. May Abdelaziz, Assistant Professor, College of Pharmacy, University of Texas at Tyler (Sept – Dec 2021)

MD/PhD/MS/Postdoctoral

1. Christine Ponce, MS Biotech, Thesis committee member (PI: Jennifer Honda). 2026-
“Mechanistic role of female sex hormones in preclinical immunological models of mycobacterial lung disease”.
2. Mounika Dugginini, MS Biotech, Thesis committee member (PI: Guohua Yi). 2024-26
“Bacteriophage therapy for *Klebsiella pneumoniae* (*K. pneumoniae*)”
3. Sydney Young, MS1/MS2, UT Tyler School of Medicine, 2025-
4. Danaleigh Stilis, MS1/MS2, UT Tyler School of Medicine, 2025-

5. Josefina Barrera, MS1/MS2/MS3, UT Tyler School of Medicine, 2024-
6. Jaime Walker, MS1/MS2/MS3, UT Tyler School of Medicine, 2024-
7. Ben Huges, Summer Research Student, June 2024
8. Lyndsey Strait, Summer Research Student, June 2024
9. Sachit Basoor, Summer Research Student, June 2024
10. Dr. Sanjay Singh, Ph.D., Postdoc. 2021-
11. Gunavanthi D. Boorgula, Research Associate, 2020-
12. Dr. Prem Sharkar, Ph.D., Postdoc. 2021-2023
13. Dr. Shruti Athale, Ph.D., Post Doc, 2016-2019
14. Dr. Stephen J. Bush, Postdoc, 2015-2017
15. Sahana John, MS – Biotechnology. Thesis committee member (PI: Guohua Yi). 2023-24.
“Generation and characterization of lipid nanoparticles for DNA plasmid delivery and the pharmacological characterization.”
16. Vanessa Bermudez Vogensen, M.D., Ph.D. Student from The Netherlands; 2022-23
“PK/PD of moxifloxacin and levofloxacin in combination with rifampicin in isoniazid-resistant *Mycobacterium tuberculosis* using the hollow-fiber system model”.
17. Mike Ruth, Ph.D. Student from The Netherlands; 2017-18.
“PK optimization of novel drugs for treatment of *Mycobacterium abscesses*”
18. Lesibana Malinga, Research Scientist, Medical Research Council, Pretoria, South Africa 2016
“NextGen sequencing and data analysis”
19. Laura Lenders, Ph.D. student, University of Cape Town, South Africa; 2013-15.
“Extraction of DNA/RNA from infected lung tissue samples, NextGen sequencing and data analysis”
20. Maria Bacalao, Dissertation for the Doctor of Medicine with distinction in research, Faculty of the Medical School, The University of Texas Southwestern Medical Center, Dallas, Texas; 2014-15.
“Using Gene Overexpression as a Potential Method to Elucidate Antibiotic Resistance Mechanisms in *Mycobacteria*”
21. Beatriz Ferro, Ph.D. Student from The Netherlands; 2015.
“PK/PD of anti-tuberculosis drugs against *Mycobacterium abscesses*”
22. BSL-3 training and extraction of nucleic acid techniques to the graduate students and Research Fellows from University of Limpopo, University of Pretoria, and Medical Research Council. 2015
23. SP Van Rijn, Masters Student from The Netherlands, 2013.
“Ertapenem dose optimization for the treatment of multi-drug resistant tuberculosis”
24. Summer Research students: Mike Garcia (2012), Mary Kate Beggs (2014), Alexandra Vallera (2016), Maria Kariampuzha (2022)

PEER-REVIEWED PUBLICATIONS (Number of peer-reviewed papers as of July 2026=169; citations=5393, h-index=41, i10-index=100)

<https://scholar.google.com/citations?user=LLZPnnEAAAJ&hl=en>

[In publication, my name appears as Shashikant Srivastava or S. Srivastava]

MANUSCRIPTS UNDER REVIEW/ACCEPTED

1. **Shashikant Srivastava** Sanjay Singh, Gunavanthi D Boorgula, Pamela J McShane, Tawanda Gumbo. Novel regimens for treatment of *Mycobacterium avium* lung disease based on advanced *in vitro* systems and the mathematics of basis functions. Antimicrob Agents Chemother, 2026. [under review, AAC00473-26-R2].
2. Sanjay Singh, Megan Devine, Pamela McShane, Devanshi Mehta, Sunjay Devrajan, Ahmed Hamdi, Tawanda Gumbo, Monika Kumaraswamy, and **Shashikant Srivastava**. Individual-Drug Minimum Inhibitory Concentrations versus In Vitro Multi-drug Combination Activity Against *Mycobacterium avium* Complex. Antimicrob Agents Chemother, 2026. [under review, AAC01154-26].

MANUSCRIPTS WORK-IN-PROGRESS

1. Jotam G. Pasipanodya, **Shashikant Srivastava**, Felipe Ridolfi, Jan-Willem C. Alffenaar, Christine Fiske, Timothy Sterling, Kelly E. Dooley. A retrospective analysis of rifampin preclinical and clinical studies in context of *Mycobacterium avium* Complex pulmonary disease.
2. Jotam G. Pasipanodya, **Shashikant Srivastava**, Jan-Willem C. Alffenaar, Christine Fiske, Timothy Sterling, Kelly E. Dooley. Role of Rifampin in the treatment of Pulmonary *Mycobacterium avium* Complex disease: a systematic review and analysis of target attainment.
3. Moti Chapagain, Norimitsu Hariguchi, Debra Hanna, Gesham Magombedze, Izuru Nakamura, Devyani Deshpande, Xiu hao Chen, Ryuki Kitamoto, **Shashikant Srivastava**, Miki Matsuba, Yoshio Ohba, Noriaki Yoda, Makoto Matsumoto, David Herman, Yongge Liu, Tawanda Gumbo. OPC-167832 and delamanid as a backbone for short pan-tuberculosis regimens.

PUBLISHED

2026

1. **Shashikant Srivastava**, Tawanda Gumbo. Rigor and reproducibility of hollow-fiber infection model for antiviral pharmacokinetics/pharmacodynamics studies. *Antimicrob Agents Chemother* 2026; AAC00969-26. Doi: 10.1128/aac.00969-26.
2. Alex Baham, Jotam G Pasipanodya, Susan McBride, **Shashikant Srivastava**. Nontuberculous mycobacteria pulmonary disease in Texas: an analysis of eight years of hospital discharge data. *Front. Tuberc.* 4:1740382. doi: 10.3389/ftubr.2026.1740382.
3. **Srivastava, Shashikant**, Lina Davis-Forsman. A point-of-care saliva-based therapeutic drug monitoring tool for levofloxacin and linezolid. *Eur Respir J* 2026; 67: 2502720
4. Alffenaar, Jan-Willem, **Srivastava, Shashikant**, Centis, Rosella; Migliori, Giovanni Battista. Do we need to revise the dose of isoniazid for the treatment of tuberculosis in children? *Eur Respir J* 2026; 67: 2502263 [DOI: 10.1183/13993003.02263-2025]
5. Sanjay Singh, Gunavanthi D Boorgula, Avneesh Shrivastava, Mary C Long, Brian Robbins, Pamela J McShane, Tawanda Gumbo, **Shashikant Srivastava**. Sulbactam-Durlobactam Plus Ceftriaxone Dosing and Novel Treatment Regimens for *Mycobacterium abscessus* Lung Disease. *Antimicrob Agents Chemother* 0:e01437-25. <https://doi.org/10.1128/aac.01437-25>
6. Gunavanthi D Boorgula, Avneesh Shrivastava, Sanjay Singh, Rodolfo-Amaro Galvez, Pamela J McShane, Megan Devine, Tawanda Gumbo, **Shashikant Srivastava**. Rifamycin, macrolide, and ethambutol-free oral drug combinations for the treatment of *Mycobacterium avium* complex lung disease. *Int J Tubercle Lung Dis*, 2006;30(3):123-133. <http://dx.doi.org/10.5588/ijtld.25.0320>
7. Jan-Willem C Alffenaar, **Shashikant Srivastava**, Rosella Centis, Giovanni Battista Migliori. Do we need to revise the dose of isoniazid for the treatment of tuberculosis in children? *European Respiratory Journal* 2026 67(3): 2502263; DOI: <https://doi.org/10.1183/13993003.02263-2025>
8. Devyani Deshpande, **Shashikant Srivastava**, Tawanda Gumbo. Pharmacodynamic evidence for tedizolid use in *Mycobacterium avium* lung disease. *IJTLD Open*. 2026 Jan 9;3(1):17–23. doi: 10.5588/ijtldopen.25.0487
9. Devyani Deshpande, **Shashikant Srivastava**, Tawanda Gumbo. Tigecycline pharmacodynamics in the hollow fiber system of *Mycobacterium avium*-complex lung disease, and the utility of MICs and time-kill studies in drug development. *bioRxiv preprint* doi: <https://doi.org/10.1101/2025.07.29.667481> *Front Pharmacol*. 2025 Nov 12;16:1682477. doi: 10.3389/fphar.2025.1682477

2025

10. Gumbo Tawanda, Boorgula Gunavanthi, **Srivastava Shashikant**. Preclinical pharmacokinetics/pharmacodynamics studies defining the role of ethambutol in *Mycobacterium kansasii* lung disease. *Antimicrob Agents Chemother* 0:e01447-25. <https://doi.org/10.1128/aac.01447-25>
11. Jotam G. Pasipanodya, Lamla Nqwata, Jonathan Schmitz, **Shashikant Srivastava**, Celestine N. Wanjalla, Kelly E. Dooley. *Mycobacterium avium* complex (MAC) elimination slopes from sputum are potential treatment response biomarkers. *Int J Tubercle Lung Dis OPEN*, 2025; 3(2):97-104. <http://dx.doi.org/10.5588/ijtldopen.25.0313>

12. Rie R. Yotsu, Rachel E. Simmonds , Dziedzom K. de Souza , Richard Odame Phillips, Yaw Ampem Amoako, **Shashikant Srivastava**, Kingsley Asiedu, Sara Eyangoh, Paul Johnson, Gerd Pluschke. Buruli ulcer. *Nat Rev Dis Primers*. 2025 Dec 18;11(1):89. doi: 10.1038/s41572-025-00672-9.
13. Sanjay Singh, Avneesh Shrivastava, Gunavanthi Boorgula, Mary Long, Brian Robbins, Tawanda Gumbo, **Shashikant Srivastava**. Eravacycline pharmacokinetics/pharmacodynamics in the hollow fiber system model of *Mycobacterium abscessus* lung disease. *Microbiol Spectr*. 2025 Dec 10:e0343225. doi: 10.1128/spectrum.03432-25.
14. Singh, Sanjay; Boorgula, Gunavanthi; Nguyen, Minh-Vu; Daley, Charles; Gumbo, Tawanda; **Srivastava, Shashikant**. Preclinical evaluation of epetraborole in the hollow fibre system model of *Mycobacterium abscessus* lung disease. *J Antimicrob Chemother* 2026 Jan 6;81(1):dkaf405. doi: 10.1093/jac/dkaf405.
15. Sanjay Singh, Megan Devine, Tawanda Gumbo, and **Shashikant Srivastava**. Epetraborole pharmacokinetics/pharmacodynamics in the hollow fiber system model of *Mycobacterium tuberculosis*. *Antimicrob Agents Chemother*. 2025 Nov 5;69(11):e0048125. doi: 10.1128/aac.00481-25.
16. Avneesh Shrivastava, Gunavanthi Boorgula, Sanjay Singh, Danaleigh Stiles, Pamela McShane, Megan Devine, Tawanda Gumbo, and **Shashikant Srivastava**. Sulbactam-durlobactam improves cephalosporins and carbapenems susceptibility and time-kill effect against *Mycobacterium abscessus*. *Microbiol Spectr* 2025, 0:e01492-25. doi.org/10.1128/spectrum.01492-25
17. **Shashikant Srivastava** and Tawanda Gumbo. Systematic and quantitative analyses of hollow fiber model of *Mycobacterium abscessus* lung disease studies. *MEDRXIV/2025/333162*.
18. Moti Chapagain, Devyani Deshpande, **Shashikant Srivastava**, Tawanda Gumbo. Systematic and quantitative analyses of pre-clinical *Mycobacterium avium* Lung Disease Tools for Drug Development and Transition from Animal Models to New Approach. *bioRxiv* 2025.07.10.664274; doi: <https://doi.org/10.1101/2025.07.10.664274>.
19. Sanjay Singh, Gunavanthi D Boorgula, Avneesh Shrivastava, Mary C Long, Brian Robbins, Pamela J McShane, Tawanda Gumbo, **Shashikant Srivastava**. Sulbactam-Durlobactam Plus Ceftriaxone Dosing and Novel Treatment Regimens for *Mycobacterium abscessus* Lung Disease. *bioRxiv* 2025.08.05.668504; doi: <https://doi.org/10.1101/2025.08.05.668504>.
20. Singh S, Yotsu R, Nueremberger E, **Srivastava S**. Erratum for Singh et al., “Repurposing drugs to advance the treatment of Buruli ulcer”. *Antimicrob Agents Chemother*. 2025 Aug 6;69(8):e0072425. doi: 10.1128/aac.00724-25.
21. Beatriz Eugenia Ferro, **Shashikant Srivastava**, Tawanda Gumbo. Ceftaroline pharmacokinetics/pharmacodynamics in the hollow-fibre model of *Mycobacterium abscessus* lung disease. *IJTLD Open*. 2025 Sep 10;2(9):519-526. doi: 10.5588/ijtldopen.25.0173.
22. Sanjay Singh, Tawanda Gumbo, Gunavanthi D Boorgula, , **Shashikant Srivastava**. Epetraborol and mycobacteria: how far can it go? *IJTLD* 2025, 29(10):447-454. DOI: <https://doi.org/10.5588/ijtld.25.0097>.
23. Avneesh Shrivastava, Sanjay Singh, Gunavanthi D Boorgula, Megan Devine, Rodolfo-Amaro Galvez, **Shashikant Srivastava**. Ivacaftor affects the susceptibility of standard-of-care drugs used to treat *Mycobacterium abscessus* lung disease. *Antimicrob Agents Chemother* 69:e00030-25 DOI:10.1128/aac.00030-25.
24. Sanjay Singh, Rie Yotsu, Eric Nuremberger, **Shashikant Srivastava**. Repurposing drugs to advance treatment of Buruli ulcer. *Antimicrob Agents Chemother* 2025 Mar 26:e0002925. DOI: [10.1128/aac.00029-25](https://doi.org/10.1128/aac.00029-25).
25. Liaqat Ali, Salima Karki, Gunavanthi D Boorgula, Amir Mekakda, Brittnee Cagle-White, Shrijan Bhattarai, Robert Beaudoin, Aryanna Blakeney, Sanjay Singh, **Shashikant Srivastava**, May H. Abdelaziz. A mechanistic understanding of the effect of *Staphylococcus aureus* VraS histidine kinase single point mutation on antibiotic resistance. *Microbiol Spectr* 0:e00095-25. <https://doi.org/10.1128/spectrum.00095-25>.
26. Sanjay Singh, Gunavanthi D. Boorgula, Avneesh Shrivastava, Tawanda Gumbo, **Shashikant Srivastava**. Comparative susceptibilities of tetracyclines in *Mycobacterium avium* complex isolates. *IJTLD OPEN* 2025,2(2):113-115. <http://dx.doi.org/10.5588/ijtldopen.24.0551>.
27. Pasipanodya J, Nqwata L, Wadle C, **Srivastava S**, Dooley KE. Shallow bacterial elimination rate slope (BERS) obtained early during therapy predict long-term outcomes in pulmonary *Mycobacterium avium* complex (P-MAC) disease. *Am J Resp Crit Care* 2025;211:A4542-A4542. doi: 10.1164/ajrccm.2025.211.Abstracts.A4542.

28. Vanessa B. Vogensen, Sanjay Singh, Christopher J Allende, David M Engelthaler, Marieke GG Sturkenboom, Gunavanthi D. Boorgula, Tania A. Thomas, Onno W. Akkerman, Tawanda Gumbo, **Shashikant Srivastava**. Fluoroquinolones and Rifampin Combination in the Backdrop of Hetero-resistant Tuberculosis. *Antimicrob Agents Chemother* 2025, 69(2):e0108424. doi: 10.1128/aac.01084-24.
29. Sanjay Singh, Tawanda Gumbo, Jann-Yuan Wang, Gunavanthi D. Boorgula, , Andrew Burke, Hung-Ling Huang, Pamela J McShane, Rodolfo Amaro-Galvez, Jane Gross, Santosh Aryal, Scott K. Heysell, **Shashikant Srivastava**. Imipenem pharmacokinetics/pharmacodynamics in a preclinical model and clinical efficacy in patients with *M. abscessus* pulmonary disease. *J Infectious Diseases* 2025, 231(6):1521-1531. doi: 10.1093/infdis/jiae6012024.

2024

30. Sanjay Singh, **Shashikant Srivastava**. It takes two to tango. Stability of drugs affecting efficacy against *Mycobacterium abscessus*. *International Journal of Antimicrobial Agents*, 2024;63(2):107060 <https://doi.org/10.1016/j.ijantimicag.2023.107060>.
31. Sanjay Singh, Gunavanthi D. Boorgula, Pamela J McShane, Julie V. Philley, Santosh Aryal, **Shashikant Srivastava**. Sarecycline pharmacokinetics and pharmacodynamics in the hollow fiber model of *Mycobacterium avium* complex. *J Antimicrobial Chemotherapy*, 2024;79(1):96-99. <https://doi.org/10.1093/jac/dkad352>.
32. Deshpande D, **Srivastava S**, Gumbo T. Ertapenem's therapeutic potential for *Mycobacterium avium* lung disease in the hollow fiber model. *Int J Antimicrob Agents*. **2024**:107204. Epub 20240514. doi: 10.1016/j.ijantimicag.2024.107204. PubMed PMID: 38754528.
33. Boorgula GD, Gumbo T, Singh S, McShane PJ, Philley JV, **Srivastava S**. Omadacycline drug susceptibility testing for non-tuberculous mycobacteria using oxyrase to overcome challenges with drug degradation. *Tuberculosis (Edinb)*. **2024**;147:102519. Epub 20240513. doi: 10.1016/j.tube.2024.102519. PubMed PMID: 38754247.
34. Devyani Deshpande, Gesham Magombedze, Shashikant Srivastava, Tawanda Gumbo. The antibacterial action of penicillin against *Mycobacterium avium* complex. *Int J Tubercle Lung Dis. (Open)* 2024,1(8): 362–368. Published online 2024 Aug 1. doi: 10.5588/ijtldopen.24.0238
35. **Shashikant Srivastava**, Tawanda Gumbo. Effective monotherapy arising from different metabolic populations of *Mycobacterium tuberculosis* does not cause therapy failure and resistance emergence. *Int J Tubercle Lung Dis* **2024**, 28(12):572–577. <http://dx.doi.org/10.5588/ijtld.24.0121>

2023

36. Devyani Deshpande, Gesham Magombedze, Gunavanthi D. Boorgula, Moti Chapagain, **Shashikant Srivastava**, Tawanda Gumbo. Ceftriaxone efficacy for *Mycobacterium avium* complex lung disease in the hollow fiber and translation to sustained sputum culture conversion in patients. *J Infect Dis*. 2023; (JID-78371)<https://doi.org/10.1093/infdis/jiad545>
37. Sanjay Singh, Tawanda Gumbo, Gunavanthi D Boorgula, Tania A. Thomas, Julie V. Philley, **Shashikant Srivastava**. Omadacycline pharmacokinetics/pharmacodynamics and efficacy against multidrug-resistant *Mycobacterium tuberculosis* in the hollow fiber system model. *Antimicrob Agents Chemother*, 2023:e0108023. doi: 10.1128/aac.01080-23.
38. Akkerman OW, Dijkwel RDC, Kerstjens HAM, van der Werf TS, **Srivastava S**, Sturkenboom MGG, Bolhuis MS. Isoniazid and rifampicin exposure during treatment in drug-susceptible TB. *Int J Tuberc Lung Dis*, 2023;27(10):772–777(<http://dx.doi.org/10.5588/ijtld.22.0698>)
39. Sanjay Singh, Tawanda Gumbo, Jann-Willem Alffenaar, Gunavanthi D Boorgula, Tania A. Thomas, Keertan Dheda, Lesibana Malinga, Prithvi Raj, Santosh Aryal, **Shashikant Srivastava**. Meropenem-vaborbactam restoration of first-line drugs' efficacy and comparison of meropenem-vaborbactam-moxifloxacin versus BPaL as pan-tuberculosis regimen. *Int J Antimicrob Agents*, 2023 (online first September 17, 2023. (<https://doi.org/10.1016/j.ijantimicag.2023.106968>)
40. **Shashikant Srivastava**, Tawanda Gumbo. Safety and tolerability of long-term use of omadacycline in the treatment of *Mycobacterium abscessus* infections. *IDCases*, 2023;33:e01843.
41. **Shashikant Srivastava**, Tawanda Gumbo. Comment on: Long-term safety and tolerability of omadacycline for the treatment of *Mycobacterium abscessus* infections. *Open Forum Infect Dis*, 2023 10(8): ofad423.

42. **Shashikant Srivastava**, Johannes W. Alffenaar, Sebastian G. Wicha. PK/PD, modeling, simulations, and biomarkers to advance the treatment of MDR-TB. *Front. Pharmacol.* 2023, 14:1233347. doi: 10.3389/fphar.2023.1233347. (Editorial article: Pharmacology of diseases: world tuberculosis day 2022.)
 43. Akkerman, Onno; Dijkwel, Regina; Kerstjens, Huib; van der Werf, Tjip; **Srivastava, Shashikant**; Sturkenboom, Marieke GG; Bolhuis, Mathieu. Isoniazid and rifampicin exposure during treatment in drug susceptible tuberculosis. *The International Journal of Tuberculosis and Lung Disease*. IJTLD-12-22-0698.R1 (Accepted May 2023).
 44. Sanjay Singh, Jann-Yuan Wang, Scott K. Heysell, Pamela J. McShane, Carly Wadle, Prem Shankar, Hung-Ling Huang, Jotam Pasipanodya, Gunavanthi D. Boorgula, Julie V. Philley, Tawanda Gumbo, **Shashikant Srivastava**. Omadacycline pharmacokinetics/pharmacodynamics in the hollow fiber model and clinical validation of efficacy to treat pulmonary *Mycobacterium abscessus* disease. *International Journal of Antimicrobial Agents* 2023, 62;106847.
 45. Tawanda Gumbo, **Shashikant Srivastava**, Devyani Deshpande, Jotam G. Pasipanodya, Alexander Berg, Klaus Romero, David Hermann, Debra Hanna. Hollow fiber system model of tuberculosis reproducibility and performance specifications for best practice in drug and combination therapy development. *J Antimicrob Chemother* 2023 Feb 16; doi: 10.1093/jac/dkad029.
 46. K.P. Singh, A.C.C. Carvalho, R. Centis, L. D'Ambrosio, G.B. Migliori, S.G. Mpagama, BC Nguyen, R.E. Aarnoutse, A. Aleska, R. van Altena, P.K. Bhavani, M. Bolhuis, S. Borisov, N. 't Boveneind-Vrubleuskaya, J. Bruchfeld, J.A. Caminero, I. Carvalho, J.G. Cho, L. Davies-Forsman, M. Dedicoat, K. Dheda, K. Dooley, J. Furin, J.M. Garcia-Garcia, A. Garcia-Prats, A.C. Hesselring, S.K. Heysell, Y. Hu, H.Y. Kim, S. Manga, B. Marais, I. Margineanu, A.G. Märtsen, M. Munoz Torrico, H.M. Nataprawira, E. Ntentes, C.W.M. Ong, R. Otto-Knapp, D.J. Palmero, C.A. Peloquin, A. Rendon, D. Rossato Silva, R. Ruslami, A.M.I. Saktiawati, P. Santoso, H.S. Schaaf, B. Seaworth, U. Simonsson, R. Singla, A. Skrahina, I. Solovic, **S. Srivastava**, S.L. Stocker, M.G. Sturkenboom, E.M. Svensson, M. Tadolini, T.A. Thomas, S. Tiberi, J. Trubiano, Z.F. Udwadia, A. Verhage, D.H. Vu, O.W. Akkerman, J.W.C. Alffenaar, J.T. Denholm. Clinical standards for the management of adverse effects during treatment of tuberculosis. *Int J Tuber Lung Dis*, 2023,27(7):506-519.
 47. Jan-Willem C Alffenaar, Jurriaan EM de Steenwinkel, Andreas H Diacon, Ulrika SH Simonsson, **Shashikant Srivastava**, Sebastian G Wicha. Pharmacokinetic and pharmacodynamic of anti-tuberculosis drugs: an evaluation of *in vitro*, *in vivo* methodologies and human studies. *Frontiers in Pharmacology*, 2023; doi.org/10.3389/fphar.2022.1063453
 48. Boorgula GD, Singh S, Shankar P, Gumbo T, Heysell SK, **Srivastava S**. Isoniazid pharmacokinetics/pharmacodynamics as monotherapy and in combination regimen in the hollow fiber system model of *Mycobacterium kansasii*. *Tuberculosis (Edinb)*. **2023**;138:102289. Epub 20221201. doi: 10.1016/j.tube.2022.102289. PubMed PMID: 36512853; PMCID: PMC9892238.
- 2022**
49. Prem Shankar, Sanjay Singh, Claude Bernal III, Gunavanthi D. Boorgula, Tawanda Gumbo, **Shashikant Srivastava**. Challenges and a potential solution to drug susceptibility testing against nontuberculous mycobacteria for drugs such as omadacycline that degrade rapidly in solution. *Tuberculosis*, 2022; 137: 102269, <https://doi.org/10.1016/j.tube.2022.102269>)
 50. Devyani Deshpande, **Shashikant Srivastava**, Tawanda Gumbo. Minocycline intra-bacterial pharmacokinetics, and once-a-week backbone tuberculosis regimen. *Frontiers in Pharmacology*, 2022;13: 1024608.
 51. Sanjay Singh, Tawanda Gumbo, Gunavanthi D. Boorgula, Prem Shankar, Scott K Heysell, **Shashikant Srivastava**. Omadacycline pharmacokinetics/pharmacodynamics in the hollow fiber system model and potential combination regimen for treatment of *Mycobacterium kansasii* pulmonary disease. *Antimicrobial Agents and Chemotherapy* , 2022 ;66(9):e0068722.
 52. J.W.C. Alffenaar, S.L. Stocker, L. Davies-Forsman, A. Garcia-Prats, S.K. Heysell, R.E. Aarnoutse, O.W. Akkerman, A. Aleska, R. van Altena, W. Arrazola de Oñata, P.K. Bhavani, N. 't Boveneind-Vrubleuskaya, A.C.C. Carvalho, R. Centis, J.M. Chakaya, D.M. Cirillo, J.G. Cho, L. D'Ambrosio, M.P. Dalcolmo, P. Denti, K. Dheda, G.J. Fox, A.C. Hesselring, H.Y. Kim, C.U. Köser, B. Marais, I. Margineanu, A.G. Märtsen, M. Munoz Torrico, H.M. Nataprawira, C.W.M. Ong, R. Otto-Knapp, C.A. Peloquin, D. Rossato Silva, R. Ruslami, P. Santoso, R.M. Savic, R. Singla, E.M. Svensson, A. Skrahina, D. van Soolingen, **S. Srivastava**, M. Tadolini, S. Tiberi, T.A. Thomas, Z.F. Udwadia, D.H. Vu, W. Zhang, S.G. Mpagama, T.

- Schon, G.B. Migliori. Clinical standards for the dosing and management of TB drugs. *Int J Tuber Lung Dis*, 2022; 26(6): 483–499.
53. O.W. Akkerman, R. Duarte, S. Tiberi, H.S. Schaaf, C. Lange, J.W.C. Alffenaar, J. Denholm, A.C.C. Carvalho, M.S. Bolhuis, S. Borisov, J. Bruchfeld, A.M. Cabibbe, J.A. Caminero, I. Carvalho, J. Chakaya, R. Centis, M.P. Dalcomo, L. D'Ambrosio, M. Dedicoat, K. Dheda, K.E. Dooley, J. Furin, J-M García-García, N.A.H. van Hest, B. de Jong, X. Kurhasani, A.G. Märtsen, S. Mpagama, M. Munoz Torrico, E. Nunes, C.W.M. Ong, D.J. Palmero, R. Ruslami, A.M.I. Saktiawati, C. Semuto, D.R. Silva, R. Singla, I. Solovic, **S. Srivastava**, J.E.M. de Steenwinkel, A. Story, M.G.G. Sturkenboom, M. Tadolini, Z.F. Udwadia, A.R. Verhage J.P. Zellweger, G.B. Migliori. Clinical standards for drug-susceptible pulmonary tuberculosis. *Int J Tuber Lung Dis*, 2022; 26(7): 592–604.
 54. **Srivastava S**, Pasipanodya J, Heysell S, Boorgula, G D, Gumbo T, McShane P J, Philley J V. An overview of drugs for the treatment of *Mycobacterium kansasii* pulmonary disease. *J Glob Antimicrob Resist*. 2022; 28:71-78.
 55. **Srivastava S**, Gumbo T, Wang J-Y, Huang HL, Boorgula GD, Howe D, Heysell S. Rifampin pharmacokinetics/pharmacodynamics in pre-clinical hollow fiber model and optimal dose for treatment of *Mycobacterium kansasii* pulmonary disease. *Antimicrob Agents Chemother*. 2022 Apr 19;66(4):e0232021
 56. Tawanda Gumbo, Moti Chapagain, Gesham Magombedze, **Shashikant Srivastava**, Devyani Deshpande, Jotam G. Pasipanodya, Ruramai Gumbo, Keertan Dheda, Andreas Diacon, David Hermann, Debra Hanna. Novel tuberculosis combination regimens of two and three-months therapy duration. *BioRxiv*, March 14, 2022; doi: <https://doi.org/10.1101/2022.03.13.484155>.
- 2021**
57. **Srivastava S**, Thomas T, Gumbo T, Ashcraft P, Bottiglieri T. Repurposing cefazolin-avibactam for the treatment of drug resistant *Mycobacterium tuberculosis*. *Front. Pharmacol*, 2021(Oct 22);12:776969. doi: 10.3389/fphar.2021.776969
 58. **Shashikant Srivastava**, Tania Thomas, Kayle Cirrincione, Dave Howe, Lesibana Malinga, Prithvi Raj, Jan-Willem Alffenaar, Tawanda Gumbo. Cefdinir and beta-lactamase inhibitor independent efficacy against *Mycobacterium tuberculosis*. *Front. Pharmacol*. 2021; 12: 677007. doi: 10.3389/fphar.2021.677005.
 59. Gunavanthi Boorgula, Laxmi U.M.R. Jakkula, Tawanda Gumbo, Bockgie Jung, **Shashikant Srivastava**. Comparison of rifamycins for efficacy and resistance emergence in the hollow fiber model system of *Mycobacterium avium* pulmonary disease. *Frontiers in Pharmacology*. 2021;12(593). doi: 10.3389/fphar.2021.645264.
 60. **Shashikant Srivastava**, Tawanda Gumbo. Therapeutic drug monitoring and fluoroquinolones for multidrug resistant tuberculosis. [Eur Respir J](https://doi.org/10.1007/s40262-021-01000-6), 2021; 57:2004454.
 61. Jan-Willem C. Alffenaar, AG Märtsen, SK Heysell, JG Cho, A Patanwalla, G Burch, HY Kim, MGG Sturkenboom, A Byrn, D Marriott, I Sandaradura, S Tiberi, V Sintchenko, **S Srivastava**, CA Peloquin. Therapeutic drug monitoring in non-tuberculosis mycobacteria infections. [Clinical Pharmacokinetics](https://doi.org/10.1007/s40262-021-01000-6), 2021; 60:711-725. (https://doi.org/10.1007/s40262-021-01000-6)
 62. **Shashikant Srivastava**, Jann-Yuan Wang, Gesham Magombedze, Jotam Pasipanodya, Moti Chapagain, Hung-Ling Huang, Devyani Deshpande, Scott K Heysell, Tawanda Gumbo. Nouveau short-course therapy and morphism mapping for clinical pulmonary *Mycobacterium kansasii*. *Antimicrob Agents Chemother*, 2023;95(5):e01553-20 [published online Feb 09,2021; DOI: 10.1128/AAC.01553-20]
 63. Tawanda Gumbo, Carleton Sherman, Devyani Deshpande, Jan-Willem Alffenaar, **Shashikant Srivastava**. *Mycobacterium tuberculosis* sterilizing activity of faropenem, pyrazinamide and linezolid combination and failure to shorten the therapy duration. *Int J Infect Dis*. 2021;104:680-4. Epub 2021/02/09. doi: 10.1016/j.ijid.2021.01.062.
 64. **Shashikant Srivastava**, Moti Chapagain, Johanna van Zyl, Devyani Deshpande, Tawanda Gumbo. Potency of vancomycin against *Mycobacterium tuberculosis* in the hollow fiber system model. *J Glob Antimicrob Resist*. 2021;24:403-10. Epub 2021/01/29. doi: 10.1016/j.jgar.2021.01.005.
 65. **Shashikant Srivastava**, Kayle N. Cirrincione, Devyani Deshpande, Tawanda Gumbo. Tedizolid, faropenem, and moxifloxacin combination with potential activity against non-replicating *Mycobacterium*

2020

66. Suresh Mallikaarjun, Moti Chapagain, Tomohiro Sasaki, Norimitsu Hariguchi, Devyani Deshpande, **Shashikant Srivastava**, Alexander Berg, Kuniko Hirota, Yusuke Inoue, Makoto Matsumoto, Jeffrey Hafkin, Lawrence Geiter, Xiaofeng Wang, Tawanda Gumbo, and Yongge Liu. Cumulative Fraction of Response for Once- and Twice-Daily Delamanid in Pulmonary Multidrug-Resistant Tuberculosis Patients. *Antimicrob Agents Chemother*, 2020 [published Oct 22; DOI: 10.1128/AAC.01207-20].
67. **Shashikant Srivastava**, Moti Chapagain, Gesham Magombedze, Scott K Heysell, Tawanda Gumbo. Comparison of a novel regimen of rifapentine, tedizolid, and minocycline with standard regimens for treatment of pulmonary *Mycobacterium kansasii*. *Antimicrob Agents Chemother*, 2020; 64(10):e00810-20.
68. **Shashikant Srivastava**, Johanna van Zyl, Kayle Cirrincione, Katherine R. Martin, Devyani Deshpande, Tania Thomas, Jan-William Alffenaar, James A Seddon, Tawanda Gumbo. Evaluation of ceftriaxone plus avibactam in an intracellular hollow fiber model of tuberculosis: implications for the treatment of disseminated and meningeal tuberculosis in children. *The Pediatric Infectious Diseases J*, 2020; 39(12): 1092-1100.
69. Fatma S. Coskun, **Shashikant Srivastava**, Prithvi Raj, Igor Dozmorov, Serkan Belkaya, Smriti Mehra, Nadia A. Golden, Allison N. Bucsan, Moti L. Chapagain, Edward K. Wakeland, Deepak Kaushal, Tawanda Gumbo, and Nicolai S.C. van Oers. sncRNA-1 Is a Small Noncoding RNA Produced by *Mycobacterium tuberculosis* in Infected Cells That Positively Regulates Genes Coupled to Oleic Acid Biosynthesis. *Frontiers Microbiology*, 2020 [https://doi.org/10.3389/fmicb.2020.01631]
70. Isaac Zentner, Hyun-moon Back, Leonid Kagan, Selvakumar Subbian, Jyothi Nagajyothi, Chawangwa Modongo, Nicola Zetola, **Shashikant Srivastava**, Jotam Pasipanodya, Tawanda Gumbo, Gregory P. Bisson, Christopher Vinnard. Redox imbalance and oxidative DNA damage during isoniazid treatment: A clinical and translational pharmacokinetic study. *Frontiers Pharmacology*, 2020; 11: 1103.
71. Hannah Yejin Kim, **Shashikant Srivastava**, Hemanth Kumar AK, Ben J Marais, Jan-Willem Alffenaar. Optimal dose or optimal exposure? Consideration for linezolid in tuberculosis treatment. *Antimicrob Agents Chemother*. *Antimicrob. Agents Chemother*. May 4, 2020 [doi:10.1128/AAC.00287-20].
72. **Shashikant Srivastava**, Moti Chapagain, Tawanda Gumbo. Effect of specimen processing, growth supplement, and different metabolic population on *Mycobacterium tuberculosis* laboratory diagnosis. *PlosOne* 2020, 15(4):e0230927.
73. Tawanda Gumbo, Kayle Cirrincione, **Shashikant Srivastava**. Repurposing drugs for treatment of *Mycobacterium abscessus*: a view to a kill. *J Antimicrob Chemother* Feb 4, 2020; 75(5): 1212-1217.
74. Alvaro A. Ordonez, Hechuan Wang, Gesham Magombedze, Camilo A. Ruiz-Bedoya, **Shashikant Srivastava**, Allen Chen, Elizabeth W. Tucker, Michael E. Urbanowski, Lisa Pieterse, E. Fabian Cardozo, Martin A. Lodge, Maunank R. Shah, Daniel P. Holt, William B. Mathews, Robert F. Dannals, Jogarao V. S. Gobburu, Charles A. Peloquin, Steven P. Rowe, Tawanda Gumbo, Vijay D. Ivaturi, Sanjay K. Jain. Dynamic ¹¹C-Rifampin PET in Tuberculosis Patients Reveals Heterogeneous Drug Exposures in Pulmonary Lesions. *Nature Medicine*, 2020; 26(4):529-534.
75. **Shashikant Srivastava**, Devyani Deshpande, Gesham Magombedze Johanna van Zyl, Kayle Cirrincione, Katherine Martin, Paula Bendet, Alexander Berg, Debra Hanna, Klaus Romero, Dave Hermann, Tawanda Gumbo. Duration of pretomanid/moxifloxacin/pyrazinamide therapy compared to standard therapy based on time-to-extinction mathematics. *J Antimicrob Chemother* 2020, 75(2):392-399.
76. **Srivastava S**, Chapagain M, Gumbo T. Effect of specimen processing, growth supplement, and different metabolic population of *mycobacterium tuberculosis* laboratory diagnosis. *Am J Respir Crit Care Med*. 2020;201:A6086. Epub 2020/5.
77. **Srivastava S**, Magombedze G, Chapagain M, Heysell S, Gumbo T. The novel regimen of rifapentine, tedizolid, and minocycline is potent and could shorten therapy duration for pulmonary *mycobacterium kansasii*. *Am J Respir Crit Care Med*. 2020;201:A4372. Epub 2020/5.
78. Deshpande D, **Srivastava S**, Gumbo T, Matrin K. Tiger roars: Tigecycline pharmacokinetics/pharmacodynamic [PK/PD] based treatment of pulmonary *mycobacterium avium* complex [MAC] disease. *Am J Respir Crit Care Med*. 2020;201:A4349. Epub 2020/5.

2019

79. Deshpande D, Pasipanodya JG, **Srivastava S**, Martin KR, Athale S, van Zyl J, Antiabong J, Koeuth T, Lee PS, Dheda K, Gumbo T. Minocycline immunomodulates via sonic hedgehog signaling and apoptosis and has direct potency against drug-resistant tuberculosis. *J Infect Dis*. 2019; 219(6):975-985.
80. Davids M, Pooran A, Hermann C, Mottay L, Thompson F, Cardenas J, Gu J, Koeuth T, Meldau R, Limberis J, Gina P, **Srivastava S**, Calder B, Esmail A, Tomasicchio M, Blackburn J, Gumbo T, Dheda K. 2019. A Human Lung Challenge Model to Evaluate the Safety and Immunogenicity of PPD and Live BCG. *Am J Respir Crit Care Med* doi:10.1164/rccm.201908-1580OC.
81. Krina Mehta, Shruthi Ravimohan, Jotam G Pasipanodya, **Shashikant Srivastava**, Chawangwa Modongo, Nicola M Zetola, Drew Weissman, Vijay Ivaturi, Tawanda Gumbo, Gregory P Bisson, Christopher Vinnard. Optimizing ethambutol dosing among HIV/tuberculosis co-infected patients: a population pharmacokinetic modelling and simulation study. *J Antimicrob Chemother*. 2019 Oct 1;74(10):2994-3002.
82. Dheda K, Lenders L, **Srivastava S**, Raj P, Bush SB, Pollara G, Steyn R, Pooran A, Pennel T, Linegar A, McNerney R, Moodley L, Pasipanodya J, Haas CT, Noursadeghi M, Warren R, Wakeland E, Gumbo T. Spatial network mapping of pulmonary tuberculosis cavities using transcriptome sequencing. *American Journal of Respiratory and Critical Care Medicine*. 2019; 200(3):370-380
83. Deshpande D, Magombedze G, **Srivastava S**, Bendet P, Lee PS, Cirrincione KN, Martin K, Dheda K, Gumbo T. Once-a-week tigecycline for the treatment of drug-resistant tb. *J Antimicrob Chemother*. 2019;74(6):1607-17.

2018

84. Bolhuis MS, Akkerman OW, Sturkenboom MGG, Ghimire S, **Srivastava S**, Gumbo T, Alffenaar JC. Linezolid-based Regimens for Multidrug-resistant Tuberculosis (TB): A Systematic Review to Establish or Revise the Current Recommended Dose for TB Treatment. *Clin Infect Dis*. 2018;67(suppl_3):S327-S35. doi: 10.1093/cid/ciy625. PubMed PMID: 30496467.
85. Deshpande D, Pasipanodya J, Mpagama SG, **Srivastava S**, Bendet P, Koeuth K, Lee PS, Heysell SK, Gumbo T. Ethionamide pharmacokinetics-pharmacodynamics-derived dose, the role of MICs in clinical outcome, and the resistance arrow of time, in multi-drug resistant tuberculosis. *Clin Infect Dis*. 2018;67(suppl 3):11.
86. Deshpande D, Pasipanodya JG, Mpagama SG, Bendet P, **Srivastava S**, Koeuth T, Lee PS, Bhavnani SM, Ambrose PG, Thwaites G, Heysell SK, Gumbo T. Levofloxacin Pharmacokinetics/Pharmacodynamics, Dosing, Susceptibility Breakpoints, and Artificial Intelligence in the Treatment of Multidrug-resistant Tuberculosis. *Clin Infect Dis*. 2018;67(suppl_3):S293-S302. doi: 10.1093/cid/ciy611. PubMed PMID: 30496461.
87. Deshpande D, Pasipanodya JG, **Srivastava S**, Bendet P, Koeuth K, Bhavnani S, Ambrose P, Smythe W, Gumusboga M, McIlleron H, Thwaites G, van Deun A, Gumbo T. Gatifloxacin pharmacokinetics/pharmacodynamics-based optimal dosing for pulmonary and meningeal multidrug-resistant tuberculosis. *Clin Infect Dis*. 2018;67(suppl 3):11.
88. Deshpande D, **Srivastava S**, Bendet P, Martin KR, Cirrincione KN, Lee PS, Pasipanodya JG, Dheda K, Gumbo T. Antibacterial and Sterilizing Effect of Benzylpenicillin in Tuberculosis. *Antimicrob Agents Chemother*. 2018;62(2). Epub 2017/11/29. doi: 10.1128/AAC.02232-17. PubMed PMID: 29180526; PMCID: PMC5786797.
89. Deshpande D, **Srivastava S**, Nuernberger E, Koeuth T, Martin KM, Cirrincione KN, Lee PS, Gumbo T. Multiparameter responses to tedizolid monotherapy and moxifloxacin combination therapy models of children with intracellular tuberculosis. *Clin Infect Dis*. 2018;67(suppl 3):S337-S43.
90. Magombedze G, J P, **Srivastava S**, Deshpande D, McIlleron H, Gumbo T. Transformation morphisms and time to extinction analysis that map therapy duration from pre-clinical models to patients with tuberculosis: translating from apples to oranges. *Clin Infect Dis*. 2018;67(Suppl 3):S349-S58.
91. **Srivastava S**, Deshpande D, Magombedze G, Gumbo T. Efficacy Versus Hepatotoxicity of High-dose Rifampin, Pyrazinamide, and Moxifloxacin to Shorten Tuberculosis Therapy Duration: There Is Still Fight in the Old Warriors Yet! *Clin Infect Dis*. 2018;67(suppl 3):S359-S64. doi: 10.1093/cid/ciy627. PubMed PMID: 30496465.

92. **Srivastava S**, Deshpande D, Nuermberger E, Cirrincione KN, Dheda K, Gumbo T. The sterilizing effect of tedizolid for pulmonary tuberculosis. *Clin Infect Dis*. 2018;67(suppl 3):S331-S6.
93. **Srivastava S**, Deshpande D, Nuermberger E, Lee PS, Cirrincione K, Dheda K, Gumbo T. The Sterilizing Effect of Intermittent Tedizolid for Pulmonary Tuberculosis. *Clin Infect Dis*. 2018;67(suppl_3):S336-S41. PubMed PMID: 30496463.
94. **Srivastava S**, Gumbo T. Clofazimine for the treatment of *Mycobacterium kansasii*. *Antimicrob Agents Chemother*. 2018;62(8). Epub 2018/05/31. doi: 10.1128/AAC.00248-18. PubMed PMID: 29844047.
95. **Srivastava S**, Gumbo T. Reply to Zimenkov, "Mutation in luxR Family Transcriptional Regulator Rv0890c Is Not a Marker of Linezolid Resistance". *Antimicrob Agents Chemother*. 2018;62(3). doi: 10.1128/AAC.02296-17. PubMed PMID: 29475892; PMCID: PMC5826107.
96. Zentner I, Modongo C, Zetola NM, Pasipanodya JG, **Srivastava S**, Heysell SK, Mpagama S, Schlect HP, Gumbo T, Bisson GP, Vinnard C. Urine colorimetry for therapeutic drug monitoring of pyrazinamide during tuberculosis treatment. *Int J Infect Dis*. 2018;68:18-23. Epub 2017/12/19. doi: 10.1016/j.ijid.2017.12.017. PubMed PMID: 29253711.

2017

97. Deshpande. D, **Srivastava S**, Gumbo T. A programme to create short-course chemotherapy for pulmonary *Mycobacterium avium* disease based on pharmacokinetics/pharmacodynamics and mathematical forecasting. *J Antimicrob Chemother*. 2017;72(Suppl 2):ii54-ii60.
98. Deshpande D, **Srivastava S**, Chapagain, M., Lee, P.S., Cirrincione, N.C., Pasipanodya, J.G., Gumbo, T. The discovery of ceftazidime-avibactam as an anti-*Mycobacterium avium* agent. *J Antimicrob Chemother*. 2017;72(Suppl 2):ii36-ii42.
99. Deshpande D, **Srivastava S**, Chapagain M, Magombedze G, Martin KR, Cirrincione KN, Lee PS, Koeuth T, Dheda K, Gumbo T. Ceftazidime-avibactam has potent sterilizing activity against highly drug-resistant tuberculosis. *Sci Adv*. 2017;3(8):e1701102. doi: 10.1126/sciadv.1701102. PubMed PMID: 28875168; PMCID: PMC5576880.
100. Deshpande D, **Srivastava S**, Chapagain ML, Lee PS, Cirrincione KN, Pasipanodya JG, Gumbo T. The discovery of ceftazidime/avibactam as an anti-*Mycobacterium avium* agent. *J Antimicrob Chemother*. 2017;72(suppl_2):i36-i42. doi: 10.1093/jac/dkx306. PubMed PMID: 28922808.
101. Deshpande D, **Srivastava S**, Gumbo T. A programme to create short-course chemotherapy for pulmonary *Mycobacterium avium* disease based on pharmacokinetics/pharmacodynamics and mathematical forecasting. *J Antimicrob Chemother*. 2017;72(suppl_2):i54-i60. doi: 10.1093/jac/dkx309. PubMed PMID: 28922811.
102. Deshpande D, **Srivastava S**, Pasipanodya J, Gumbo T. A novel ceftazidime-avibactam, rifabutin, tedizolid and moxifloxacin(CARTM) regimen for pulmonary *Mycobacterium avium* disease. *J Antimicrob Chemother*. 2017;72(Suppl 2):ii48-ii53.
103. Deshpande D, **Srivastava S**, Pasipanodya J, Gumbo T. Linezolid as treatment for pulmonary *Mycobacterium avium* disease. *J Antimicrob Chemother*. 2017;72(Suppl 2):ii24-ii9.
104. Deshpande D, **Srivastava S**, Pasipanodya JG, Lee PS, Gumbo T. Tedizolid is highly bactericidal in the treatment of pulmonary *Mycobacterium avium* complex disease. *Journal of Antimicrobial Chemotherapy*. 2017;72(Suppl 2):30-5. doi: 10.1093/jac/dkx305. PubMed PMID: WOS:000410149200005.
105. Deshpande D, **Srivastava S**, Pasipanodya JG, Lee PS, Gumbo T. A novel ceftazidime/avibactam, rifabutin, tedizolid and moxifloxacin (CARTM) regimen for pulmonary *Mycobacterium avium* disease. *J Antimicrob Chemother*. 2017;72(suppl_2):i48-i53. doi: 10.1093/jac/dkx307. PubMed PMID: 28922809.
106. Pasipanodya J, Ogbonna D, Deshpande D, **Srivastava S**, Gumbo T. Meta-analyses and the evidence base for microbial outcomes in the treatment of pulmonary *Mycobacterium avium*–intracellulare complex disease. *J Antimicrob Chemother*. 2017;72(Suppl 2):ii3-ii19.
107. Pasipanodya JG, Ogbonna D, Ferro BE, Magombedze G, **Srivastava S**, Deshpande D, Gumbo T. Systematic review and meta-analyses of the effect of chemotherapy on pulmonary *Mycobacterium abscessus* outcomes and disease recurrence. *Antimicrob Agents Chemother*. 2017. doi: 10.1128/AAC.01206-17. PubMed PMID: 28807911.
108. **Srivastava S**, Pasipanodya J.G., Gumbo, T. pH conditions under which pyrazinamide works in humans. *Antimicrob Agents Chemother*. 2017;61(9):e00854-17.

109. **Srivastava S**, Deshpande D, Gumbo T. Failure of the azithromycin and ethambutol combination regimen in the hollow-fibre system model of pulmonary *Mycobacterium avium* infection is due to acquired resistance. *J Antimicrob Chemother.* 2017;72(Suppl 2):ii20-ii3.
110. **Srivastava S**, Deshpande D, Gumbo T. A 'shock and awe' thioridazine and moxifloxacin combination-based regimen for pulmonary *Mycobacterium avium*-intracellular complex disease. *J Antimicrob Chemother.* 2017;72(Suppl 2):ii43-ii7.
111. **Srivastava S**, Deshpande D, Sherman CM, Gumbo T. A 'shock and awe' thioridazine and moxifloxacin combination-based regimen for pulmonary *Mycobacterium avium*-intracellular complex disease. *J Antimicrob Chemother.* 2017;72(suppl_2):i43-i7. doi: 10.1093/jac/dkx308. PubMed PMID: 28922810.
112. **Srivastava S**, Magombedze G, Koeuth T, Sherman C, Pasipanodya JG, Raj P, Wakeland E, Deshpande D, Gumbo T. Linezolid dose that maximizes sterilizing effect while minimizing toxicity and resistance emergence for tuberculosis. *Antimicrob Agents Chemother.* 2017;61(8). Epub 2017/06/07. doi: 10.1128/AAC.00751-17. PubMed PMID: 28584143; PMCID: PMC5527615.
113. van Rijn SP, **Srivastava S**, Wessels MA, van Soolingen D, Alffenaar JC, Gumbo T. Sterilizing effect of ertapenem-clavulanate in a hollow-fiber model of tuberculosis and implications on clinical dosing. *Antimicrob Agents Chemother.* 2017;61(9). doi: 10.1128/AAC.02039-16. PubMed PMID: 28696238; PMCID: PMC5571313.
114. Vinnard C, Ravimohan S, Tamuhla N, Ivaturi V, Pasipanodya J, **Srivastava S**, Modongo C, Zetola NM, Weissman D, Gumbo T, Bisson GP. Isoniazid clearance is impaired among human immunodeficiency virus/tuberculosis patients with high levels of immune activation. *Br J Clin Pharmacol.* 2017;83(4):801-11. doi: 10.1111/bcp.13172. PubMed PMID: 27792837; PMCID: PMC5346858.
115. Vinnard C, Ravimohan S, Tamuhla N, Pasipanodya J, **Srivastava S**, Modongo C, Zetola NM, Weissman D, Gumbo T, Bisson GP. Markers of gut dysfunction do not explain low rifampicin bioavailability in HIV-associated TB. *J Antimicrob Chemother.* 2017. doi: 10.1093/jac/dkx111. PubMed PMID: 28472448.

2016

116. **Srivastava S**, Deshpande D, Pasipanodya J, Nuermberger E, Swaminathan S, Gumbo T. Optimal clinical doses of faropenem, linezolid, and moxifloxacin in children with disseminated tuberculosis: Goldilocks. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S102-S109. PubMed PMID: 27742641; PubMed Central PMCID: PMC5064158.
117. Deshpande D, **Srivastava S**, Nuermberger E, Pasipanodya JG, Swaminathan S, Gumbo T. A faropenem, linezolid, and moxifloxacin regimen for both drug-susceptible and multidrug-resistant tuberculosis in children: FLAME path on the milky way. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S95-S101. PubMed PMID: 27742640; PubMed Central PMCID: PMC5064155.
118. Deshpande D, **Srivastava S**, Nuermberger E, Pasipanodya JG, Swaminathan S, Gumbo T. Concentration-dependent synergy and antagonism of linezolid and moxifloxacin in the treatment of childhood tuberculosis: the dynamic duo. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S88-S94. PubMed PMID: 27742639; PubMed Central PMCID: PMC5064154.
119. Deshpande D, **Srivastava S**, Pasipanodya JG, Bush SJ, Nuermberger E, Swaminathan S, Gumbo T. Linezolid for infants and toddlers with disseminated tuberculosis: first steps. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S80-S87. PubMed PMID: 27742638; PubMed Central PMCID: PMC5064157.
120. **Srivastava S**, Deshpande D, Pasipanodya JG, Thomas T, Swaminathan S, Nuermberger E, Gumbo T. A combination regimen design program based on pharmacodynamic target setting for childhood tuberculosis: design rules for the playground. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S75-S79. PubMed PMID: 27742637; PubMed Central PMCID: PMC5064153.
121. Swaminathan S, Pasipanodya JG, Ramachandran G, Hemanth Kumar AK, **Srivastava S**, Deshpande D, Nuermberger E, Gumbo T. Drug concentration thresholds predictive of therapy failure and death in children with tuberculosis: bread crumb trails in random forests. *Clin Infect Dis.* 2016 Nov 1;63(suppl 3):S63-S74. PubMed PMID: 27742636; PubMed Central PMCID: PMC5064152.
122. Modongo C, Pasipanodya JG, Magazi BT, **Srivastava S**, Zetola NM, Williams SM, Sirugo G, Gumbo T. Artificial intelligence and amikacin exposures predictive of outcomes in multidrug-resistant tuberculosis patients. *Antimicrob Agents Chemother.* 2016 Sep 23;60(10):5928-32. doi: 10.1128/AAC.00962-16. Print 2016 Oct. PubMed PMID: 27458224; PubMed Central PMCID: PMC5038293.

123. Ferro BE, **Srivastava S**, Deshpande D, Pasipanodya JG, van Soolingen D, Mouton JW, van Ingen J, Gumbo T. Failure of the amikacin, cefoxitin, and clarithromycin combination regimen for treating pulmonary *Mycobacterium abscessus* infection. *Antimicrob Agents Chemother.* 2016 Sep 23;60(10):6374-6. doi: 10.1128/AAC.00990-16. Print 2016 Oct. PubMed PMID: 27458221; PubMed Central PMCID: PMC5038227.
124. **Srivastava S**, Modongo C, Siyambalapitiyage Dona CW, Pasipanodya JG, Deshpande D, Gumbo T. Amikacin optimal exposure targets in the hollow-fiber system model of tuberculosis. *Antimicrob Agents Chemother.* 2016 Sep 23;60(10):5922-7. doi: 10.1128/AAC.00961-16. Print 2016 Oct. PubMed PMID: 27458215; PubMed Central PMCID: PMC5038304.
125. Deshpande D, **Srivastava S**, Musuka S, Gumbo T. Thioridazine as chemotherapy for *Mycobacterium avium* complex diseases. *Antimicrob Agents Chemother.* 2016 Jul 22;60(8):4652-8. doi: 10.1128/AAC.02985-15. Print 2016 Aug. PubMed PMID: 27216055; PubMed Central PMCID: PMC4958214.
126. **Srivastava S**, Pasipanodya JG, Ramachandran G, Deshpande D, Shuford S, Crosswell HE, Cirrincione KN, Sherman CM, Swaminathan S, Gumbo T. A long-term co-perfused disseminated tuberculosis-3d liver hollow fiber model for both drug efficacy and hepatotoxicity in babies. *EBioMedicine.* 2016 Apr;6:126-38. doi: 10.1016/j.ebiom.2016.02.040. Epub 2016 Feb 27. PubMed PMID: 27211555; PubMed Central PMCID: PMC4856747.
127. Ferro BE, **Srivastava S**, Deshpande D, Pasipanodya JG, van Soolingen D, Mouton JW, van Ingen J, Gumbo T. Moxifloxacin's limited efficacy in the hollow-fiber model of *Mycobacterium abscessus* disease. *Antimicrob Agents Chemother.* 2016 May 23;60(6):3779-85. doi: 10.1128/AAC.02821-15. Print 2016 Jun. PubMed PMID: 27067317; PubMed Central PMCID: PMC4879399.
128. **Srivastava S**, van Rijn SP, Wessels AM, Alffenaar JW, Gumbo T. Susceptibility testing of antibiotics that degrade faster than the doubling time of slow-growing mycobacteria: ertapenem sterilizing effect versus *Mycobacterium tuberculosis*. *Antimicrob Agents Chemother.* 2016 Apr 22;60(5):3193-5. doi: 10.1128/AAC.02924-15. Print 2016 May. PubMed PMID: 26926650; PubMed Central PMCID: PMC4862539.
129. Ferro BE, **Srivastava S**, Deshpande D, Pasipanodya JG, van Soolingen D, Mouton JW, van Ingen J, Gumbo T. Tigecycline is highly efficacious against *Mycobacterium abscessus* pulmonary disease. *Antimicrob Agents Chemother.* 2016 Apr 22;60(5):2895-900. doi: 10.1128/AAC.03112-15. Print 2016 May. PubMed PMID: 26926649; PubMed Central PMCID: PMC4862465.
130. van Oers NS, **Srivastava S**, Raj P, Dozmorov I, Wakeland EK, Gumbo T. *Mycobacterium tuberculosis* produces small noncoding RNAs during infections to regulate mycobacterial and eukaryotic gene expression. *The Journal of Immunology.* 2016;196(1 Supplement):65.13-65.13.

2015

131. **Srivastava S**. Minimum inhibitory concentration, pharmacokinetics/pharmacodynamics and therapeutic drug monitoring: An integrated approach for multidrug-resistant tuberculosis. *Lung India.* 2015;32(4):402-3. PubMed PMID: 26180397; PMCID: PMC4502212.
132. Ferro BE, **Srivastava S**, Deshpande D, Sherman CM, Pasipanodya JG, van Soolingen D, Mouton JW, van Ingen J, Gumbo T. amikacin pharmacokinetics/pharmacodynamics in a novel hollow-fiber *Mycobacterium abscessus* disease model. *Antimicrob Agents Chemother.* 2015 Dec 7;60(3):1242-8. doi: 10.1128/AAC.02282-15. PubMed PMID: 26643339; PubMed Central PMCID: PMC4775936.
133. Pasipanodya J, **Srivastava S**, Gumbo T. Fatal lure of look-back studies in explaining pharmacological events such as acquired drug resistance in patients with multidrug-resistant tuberculosis. *J Infect Dis.* 2015 Jul 1;212(1):166-7. doi: 10.1093/infdis/jiv068. Epub 2015 Feb 3. PubMed PMID: 25649174.
134. **Srivastava S**, Pasipanodya J, Sherman CM, Meek C, Leff R, Gumbo T. Rapid drug tolerance and dramatic sterilizing effect of moxifloxacin monotherapy in a novel hollow-fiber model of intracellular i disease. *Antimicrob Agents Chemother.* 2015 Apr;59(4):2273-9. doi: 10.1128/AAC.04441-14. Epub 2015 Feb 2. PubMed PMID: 25645830; PubMed Central PMCID: PMC4356829.
135. Pasipanodya JG, **Srivastava S**, Gumbo T. Comment on: Clinical significance of 2 h plasma concentrations of first-line anti-tuberculosis drugs: a prospective observational study. *J Antimicrob Chemother.* 2015 Jan;70(1):320-1. doi: 10.1093/jac/dku345. Epub 2014 Sep 1. PubMed PMID: 25182065.

136. 2014

137. Jotam Pasipanodya, **Shashikant Srivastava**, Tawanda Gumbo. Acquired drug resistance because of pharmacokinetic variability in a young child with tuberculosis. *The Pediatric Infectious disease Journal*, **2014**, 33(11); 1205.
 138. Musuka S, **Srivastava S**, Siyambalapitiyage Dona CW, Meek C, Leff R, Pasipanodya J, Gumbo T. Thioridazine pharmacokinetic-pharmacodynamic parameters "Wobble" during treatment of tuberculosis: a theoretical basis for shorter-duration curative monotherapy with congeners. *Antimicrob Agents Chemother*. 2013 Dec;57(12):5870-7. doi: 10.1128/AAC.00829-13.
 139. Jotam Pasipanodya, **Shashikant Srivastava**, Tawanda Gumbo. Comment on: clinical significance of 2 h plasma concentration of first-line anti-tuberculosis drugs: a prospective observational study. *J Antimicrob Chemother*, **2014**. Doi: 10.1093/jac/dku345.
 140. **Shashikant Srivastava**, Jotam Pasipanodya, Carleton Sherman, Claudia Meek, Richard Leff, Tawanda Gumbo. Rapid drug tolerance and dramatic sterilizing effect of moxifloxacin monotherapy in a novel hollow fiber model of intracellular *Mycobacterium kansasii* disease. *Antimicrob Agents Chemother*. 2015 Feb 2. pii: AAC.04441-14
 141. Jotam Pasipanodya, **Shashikant Srivastava**, Tawanda Gumbo. Breaking bad! The large impact of pharmacokinetic variability on tuberculosis outcome versus the failure of DOTS to protect against failure in European patients. *Journal of antimicrobial Chemotherapy*, **2014**. doi:10.1093/jac/dku345
 142. **Shashikant Srivastava**, Tawanda Gumbo. Integrating drug concentrations and MICs with Bayesian-dose optimization for MDR-TB. *Eur Res J* **2014**, 43: 312-313.
- 2013**
143. Shashikant **Srivastava**, Sotgiu Giovanni, Charles Peloquin, GB Migliori. Therapeutic drug management: is it the future of MDR-TB treatment? *Eur Respir J* **2013**; 42: 144-1453.
 144. Sandirai Musuka, **Shashikant Srivastava**, Chandima S.W. Siyambalapitiyage Dona, Claudia Meek, Richard Leff, Jotam G. Pasipanodya, Tawanda Gumbo. Thioridazine exhibits wobbly pharmacokinetic-pharmacodynamic parameters during treatment of tuberculosis: A theoretical basis for shorter duration curative monotherapy with congeners. *Antimicrob Agents Chemother* **2013**
 145. **Shashikant Srivastava**, Carleton Sherman, Tawanda Gumbo. *in vitro* susceptibility testing and totally drug-resistant tuberculosis. *European Respiratory Journal* **2013**, 42(1): 291-92.
- 2012**
146. Jotam Pasipanodya, **Shashikant Srivastava**, and Tawanda Gumbo. New susceptibility breakpoints and the regional variability of MIC distribution in *Mycobacterium tuberculosis* isolates: All over but the shouting. *Antimicrob Agents chemother* **2012**, 56(10); 5428.
 147. Eitson JL, Medeiros JJ, Hoover AA, **Srivastava S**, Aínsa JA, Hansen EJ, Gumbo T, and van Oers NSC. Mycobacterial shuttle vectors designed for high level protein expression in infected macrophages. *Appl Environ Microbiol*. **2012**;78(19):6829.
 148. Aurelia M. Schmalstieg, **Shashikant Srivastava**, Devyani Deshpande, Claudia Meek, Richard Leff, Tawanda Gumbo. The antibiotic-resistance arrow of time: efflux pump induction is a general first step in the evolution of mycobacterial drug-resistance. *Antimicrob Agents Chemother*. **2012**,56(9):4806.
 149. **Srivastava S**, Pasipanodya J, Gumbo T. Reply to Alfanar: Dried Blood Spot analysis combined with limited sampling models can advance TDM of TB drugs. *J Infect Dis*. **2012** Jun;205(11):1766.
 150. Jotam G. Pasipanodya, **Shashikant Srivastava**, Tawanda Gumbo. Meta-analysis of clinical studies supports the pharmacokinetic variability hypothesis for acquired drug resistance and failure of anti-tuberculosis therapy. *Clinical Infectious Diseases* **2012** (doi: 10.1093/cid/cis353).
 151. **Shashikant Srivastava** and Tawanda Gumbo. Reply to Dr. Peloquin's "Pharmacokinetic mismatch of tuberculosis drugs. *Antimicrob. Agents Chemother*. **2012**, 56: 1667.
 152. **S. Srivastava**, JG Pasipanodya, T Gumbo. Reply to alfenaar. *Journal of Infectious Diseases* **2012**, 205 (11): 1766-1766
 153. Pasipanodya J, **Srivastava S**, Gumbo T. Scientific and patient care evidence to change susceptibility breakpoints for first line anti-tuberculosis agents. *Int J Tuberc Lung Dis*. **2012**;16:706-7.
- 2011**
154. **Shashikant Srivastava** and Tawanda Gumbo. *In vitro* and *in vivo* modeling of tuberculosis drugs and its impact on optimization of doses and regimens. *Current Pharmaceutical Design* **2011**, 17(27): 2881-2888.

155. **Shashikant Srivastava**, Jotam G. Pasipanodya, Claudia Meek, Richard Leff, Tawanda Gumbo. Drug resistant tuberculosis is not due to poor adherence but between-patient variability. *Journal of Infectious Diseases* **2011**; 204: 1951–9.
 156. **Shashikant Srivastava**, Carleton Sherman, Claudia Meek, Richard Leff, Tawanda Gumbo. Pharmacokinetic mismatch does not lead to emergence of isoniazid or rifampin-resistant *Mycobacterium tuberculosis*, but better microbial effect: a new paradigm for anti-tuberculosis drug scheduling. *Antimicrob Agents Chemother* **2011**, 55(11): 5085-5059.
- 2010**
157. **Shashikant Srivastava**, Sandirai Musuka, Carleton Sherman, Claudia Meek, Richard Leff, Tawanda Gumbo. Efflux-pump derived multiple drug resistance to ethambutol monotherapy in *Mycobacterium tuberculosis* and ethambutol pharmacokinetics-pharmacodynamics. *J Infect Dis.* **2010** Apr 15; 201(8):1225-31.
 158. Devyani Deshpande, **Shashikant Srivastava**, Claudia Meek, Richard Leff, Tawanda Gumbo. Ethambutol optimal clinical dose and susceptibility breakpoint identification by use of a novel pharmacokinetic-pharmacodynamic model of disseminated intracellular *Mycobacterium avium*. *Antimicrob. Agents Chemother.* 2010, 54(5); 1728-1733.
 159. Devyani Deshpande, **Shashikant Srivastava**, Claudia Meek, Richard Leff, Gerri S. Hall, Tawanda Gumbo. Moxifloxacin PK/PD and optimal dose and susceptibility breakpoint identification for the treatment of disseminated *Mycobacterium avium* infection. *Antimicrob. Agents Chemother.* **2010**, 54(6); 2534-2539.
- 2009**
160. **Shashikant Srivastava**, Kishan K Nyati, Archana Ayyagari, Tapan N Dhole. *emb* gene nucleotide polymorphism and role of *embB306* mutation in resistance to ethambutol in *Mycobacterium tuberculosis*. *Int J Med Microbiol.* **2009**; 299(4): 269-80
 161. Vijya LAKshmi Nag, Jagdeep Singh, **Shashikant Srivastava**, Isha Tyagi. Rapid diagnosis and successful drug therapy of primary parotid tuberculosis in pediatric age group: a case report and brief review of the literature. *Int J Infect Dis.* **2009**; 13(3): 319-21.
- 2008**
162. **Srivastava S**, Ayyagari A, Krishnani N, Dhole TN, Nyati KK, Dwivedi SK. Progression of chronic pulmonary tuberculosis in mice intravenously infected with ethambutol resistant *Mycobacterium tuberculosis*. *Ind J Med Microbiol.* **2008**, 26(4): 342-8.
 163. Amita Jain, Rajesh Mondal, **Shashikant Srivastava**. Novel mutations in **embB** gene of ethambutol resistant *Mycobacterium tuberculosis* and their association with degree of ethambutol resistance; an Indian experience. *Indian J Med Res* **2008**; 128: 634-639.
 164. Soumyakanta Sahoo, **Shashikant Srivastava**, Archana Ayyagari, Malay Ghar. Prevalence of *H. influenzae* type b & f among unvaccinated patients with respiratory tract infection and meningitis. *World Journal of Microbiology and Biotechnology*, **2008**; 24(3): 1977-79.
- 2006**
165. KK Mishra, **S Srivastava**, PP Dwivedi, A Garg and A Ayyagari. Antibiotic susceptibility of *Helicobacter pylori* strains by disc diffusion and E-test in India. *Curr Microbiol.* **2006** Oct; 53(4):329-34.
 166. A Garg, **S Srivastava**, VM Katoch, TN Dhole, A Ayyagari. *embB* gene mutations associated with ethambutol resistant Indian strains of *Mycobacterium tuberculosis*. *Current Science*, **2006**; 91(11): 1512-1517.
 167. **Srivastava S**, Garg A, Ayyagari A, Nyati KK, Dhole TN, Dwivedi SK. Nucleotide polymorphism associated with ethambutol resistance in clinical isolates of *Mycobacterium tuberculosis*. *Current Microbiology*, **2006** Nov 53(5): 401-5.
 168. KK Mishra, **S Srivastava**, PP Dwivedi, KN Prasad and A Ayyagari. PCR-Based RFLP Analysis of *ureC* Gene for Typing of Indian *Helicobacter pylori* Strains from Gastric Biopsy Specimens and Culture. *J. Microbiol.* **2002**; 40 (4): 282-288.
 169. KK Mishra, **S Srivastava**, PP Dwivedi, KN Prasad and A Ayyagari. *ureC* PCR based diagnosis of *Helicobacter pylori* infection and detection of *cagA* gene in gastric biopsies. *Indian J Pathol Microbiol* **2002**; 45:31-38.
 170. KK Mishra, **S Srivastava**, PP Dwivedi, KN Prasad, A Ayyagari and SR Naik. Genotypes of *Helicobacter pylori* isolates from various peptic disorders in and around Lucknow. *Current Science* **2002**; 83 (6): 749-755.

INVITED TALKS

1. Model-Informed Preclinical Mycobacterial Drug Development. Symposium C12. Mycobacteria Reimagined: Game Changing Discoveries in TB and NTM Science. ATS International Conference, Orlando, FL, USA. May 19, 2026..
2. Transforming Treatment of Mycobacterium abscessus Lung Disease Through AI-Guided Combination Therapy and Translational Modelling. UT Health Science Center at Tyler. April 15, 2026.
3. Guest Faculty Seminar. Seeing but not believing when it comes to NTM therapeutics; Science needs a healthy dose of skepticism. Sanjay Gandhi Postgraduate Institute of Medical Science, Lucknow, India. June 2025.
4. Seeing but not believing - Science needs a healthy dose of skepticism. UT Health Science Center at Tyler. April 15, 2025.
5. Update on new drug regimens for the treatment of MAC pulmonary Disease. NTM Weekly Meeting, University of Virginia Health System, Division of Infectious Disease and International Health, Oct 31, 2024.
6. *Sui generis* tuberculosis treatment regimens: From preclinical models to clinical trials. Corothers Life Science Seminar, South Dakota State University, Sept 20, 2024.
7. The role of Hollow-Fiber System in optimizing combinational regimen for mycobacterial diseases. The 9th Asia Pacific Region Conference of the International Union Against Tuberculosis and Lung Disease [APRC 2024]. April 27, 2024, Taipei, Taiwan.
8. A preclinical model-based platform to design novel regimens for MDR-TB. Guest seminar, Department of Microbiology and Immunology, Louisiana State University Health Science Center, Shreveport, LA. Feb 16, 2024.
9. Current trends and future prospects in the management of TB. 46th Annual Conference of the Indian Association of Medical Microbiologists [MICROCON 2023]. November 24-26, 2023, Lucknow, India.
10. Research updates from the University of Texas at Tyler. 2023 NTM Research Consortium (NTMRC) Meeting, November 2-3, 2023, Portland, Oregon, USA.
11. Epetraborol and mycobacteria. Preclinical data presentation to AN2 Pharmaceuticals. Apr 2024
12. *in vitro* PK/PD and implications for clinical care. TB-CRE 1st Pharmacology seminar: PK/PD. Sydney Institute for Infectious Diseases (Sydney ID), Sydney School of Pharmacy, The University of Sydney, NSW, Australia. March 29, 2023.
13. Omadacycline optimal dose efficacy for treatment of pulmonary *Mycobacterium abscessus* disease. Invited lecture for the Medical Affairs Group, Paratek Pharmaceuticals, Sept 19, 2022.
14. Translation and morphism mapping of preclinical data to patients to design combination regimen for tuberculosis. University of Texas Health Science Center, Tyler, Texas, Feb 2020.
15. D-cycloserine PK/PD in the hollow fiber model of tuberculosis and optimal dose for multidrug-resistant tuberculosis. PodrTB Study Meeting, University of Cape Town, South Africa, Jan 2020.
16. PK variability and heterogeneity using SMOR. PodrTB Study Meeting, University of Cape Town, South Africa, Jan 2020.
17. Hollow fiber system and time-to-extinction modeling for antimycobacterial pharmacotherapy. Public Health Research Institute (PHRI), Rutgers University, 2019
18. Short-course treatment regimen and morphism mapping for pulmonary *Mycobacterium Kansasii*. ATS International Conference, Dallas, USA, 2019
19. Novel combination therapy for the treatment of *Mycobacterium kansasii*. The 48th Union World Conference on Lung Health (WHO), The Hague, The Netherlands, 2018
20. PK/PD optimized combination therapy for MDR-TB. RML Institute of Medical Sciences, Lucknow, India, 2018
21. Optimizing treatment of *Mycobacterium kansasii*. The 48th Union World Conference on Lung Health (WHO), Guadalajara, Mexico, 2017
22. PK/PD of anti-tuberculosis drugs and use of NextGen sequencing to decipher the mechanism of acquired drug resistance in tuberculosis. 2015, Medical Research council, Pretoria, South Africa; Dec 2015.
23. Treatment failure and emergence of resistance during non-compliance in an experimental TB model. 3rd International Workshop on Clinical Pharmacology of TB drugs, Boston, MA, U.S.A. 2017.
24. Genetic diversity of *Mycobacterium tuberculosis* isolated from different anatomical positions of the same patient. Baylor Scott and White Scientific Research Retreat, 2016
25. PK/PD of anti-tuberculosis drugs and use of NextGen sequencing to decipher the mechanism of acquired

drug resistance in tuberculosis. Medical Research Council, Pretoria, South Africa; 2015

26. Fighting dogmas in tuberculosis: The glass mouse and *in silico* clinical trial simulations to optimize therapy for multi-drug resistant tuberculosis. Baylor Institute of Immunology Research, Dallas, Texas; 2015
27. Treatment failure and emergence of resistance during non-compliance in an experimental TB model. 3rd International Workshop on Clinical Pharmacology of TB Drugs, Boston, Massachusetts, USA; 2010
28. Examining the effective monotherapy hypothesis for resistance emergence in a hollow fiber model for sterilizing effect. Gordon Research Conference (Tuberculosis Drug Development), Oxford, UK. 2009.

PRESENTATIONS AT REGIONAL, NATIONAL, AND INTERNATIONAL MEETINGS

1. Avneesh Shrivastava, Gunavanthi D Boorgula, Sanjay Singh, Monika Kumaraswamy, **Shashikant Srivastava**. Target redundancy and double β -lactam β -lactamase backbone to create new treatment regimens for *Mycobacterium abscessus* lung disease. Interdisciplinary Meeting on Antimicrobial Resistance and Innovation (IMARI, January 27-29, 2027, Las Vegas, Nev, USA.
2. **S. Srivastava**, S. Singh, M. Devine, P. J. Mcshane, D. Mehta, S. R. Devarajan, A. Hamdi, T. Gumbo. High Individual Drug Mic Versus Activity In Multidrug Combination Therapy For Refractory *Mycobacterium avium* Complex Pulmonary Disease. ATS International Conference, Orlando, Florida, USA, 202026
3. Avneesh Shrivastava, Gunavanthi D Boorgula, Sanjay Singh, Danaleigh Stiles, Pamela J McShane, Megan Devine, Tawanda Gumbo, **Shashikant Srivastava**. Sulbactam/durlobactam-based double β -lactam- β -lactamase combinations to treat *Mycobacterium abscessus* pulmonary disease. Texas Branch ASM Fall Meeting, Tyler, Texas. Oct 30-Nov 01, 2025.
4. Sanjay Singh, Gunavanthi D Boorgula, Rodolfo-Amaro Galvez, Megan Devine, Tawanda Gumbo, **Shashikant Srivastava**. Epetraborole in the wild west of mycobacterium. Texas Branch ASM Fall Meeting, Tyler, Texas. Oct 30-Nov 01, 2025.
5. Sanjay Singh, Avneesh Shrivastava, Gunavanthi D. Boorgula, Mary C Long, Brian Robbins, Pamela J McShane, Tawanda Gumbo, **Shashikant Srivastava**. Model-informed precision dosing of sulbactam-durlobactam for the treatment of *Mycobacterium abscessus* pulmonary disease. Texas Branch ASM Fall Meeting, Tyler, Texas. Oct 30-Nov 01, 2025.
6. Sanjay Singh, Pamela J McShane, Tawanda Gumbo, **Shashikant Shrivastava**. When seeing is not believing: a story of minocycline and *Mycobacterium avium*. School of Medicine Research Day 2025, April 25, 2025, University of Texas at Tyler, Texas, USA.
7. Sanjay Singh, Josefina Barrera, Jaime Walker, **Shashikant Shrivastava**. Role of Hollow fiber system model in nontuberculous mycobacteria drug and regimen development. School of Medicine Research Day 2025, April 25, 2025, University of Texas at Tyler, Texas, USA.
8. Alex Baham, Jotam Pasipanodya, Susan McBride, **Shashikant Srivastava**. Analysis of hospital admission data for NTM pulmonary disease in Texas, 2016-2023. Colorado Mycobacteria Conference, May 27-31, 2025. Denver, Colorado, USA.
9. Sanjay Singh, Gunavanthi Boorgula, Avneesh Shrivastava, Tawanda Gumbo, **Shashikant Srivastava**. Eravacycline pharmacokinetics/pharmacodynamics in the hollow fiber model of *Mycobacterium avium* complex. Colorado Mycobacteria Conference, May 27-31, 2025. Denver, Colorado, USA.
10. Jotam G. Pasipanodya, Lamla Nqwata, Carly Wadle, Kelly E. Dooley, **Shashikant Srivastava**. Shallow bacterial elimination rate slope (BERS) obtained early during therapy predict long-term outcomes in pulmonary *Mycobacterium avium* complex (P-MAC) disease. ATS International Conference, May 18-21, 2025, San Francisco, USA.
11. Sanjay Singh, Gunavanthi D. Boorgula, Megan Devine, Tania A. Thomas, **Shashikant Srivastava**. Imipenem-relebactam to restore efficacy of first-line drugs and develop novel combination regimens to treat multidrug-resistant tuberculosis. TXASM Fall Meeting 2024, Galveston, Texas, Nov 7-9, 2024.
12. Sanjay Singh, Tawanda Gumbo, Gunavanthi D. Boorgula, Andrew Burke, **Shashikant Srivastava**. Imipenem pharmacokinetics/pharmacodynamics in the hollow fiber model of *Mycobacterium abscessus*. ATS International Conference, May 17-22, 2024, San Diego, CA, USA.
13. **Shashikant Srivastava**, Tawanda Gumbo, Jann-Yuan Wang, Pamela J McShane, Julie V. Philley, Rodolfo Amaro-Galvez, Jane E. Gross, Scott K. Heysell. Imipenem to reduce the time to sputum culture conversion in patients with *Mycobacterium abscessus* lung disease. ATS International Conference, May 17-22, 2024, San Diego, CA, USA.

14. Avneesh Shrivastava, Gunavanthi D. Boorgula, Sanjay Singh, Tawanda Gumbo, **Shashikant Srivastava**. Head-to-head comparison of four oxazolidinones and standard-of-care drugs against *Mycobacterium abscessus*. East Texas Research Conference (ETRC), University of Texas at Tyler, Texas, April 2024.
15. Jeffrey Youngblood, Tammy W Cowart, **Shashikant Srivastava**. Medical Assistance in Dying (MAiD): ethical and moral dilemma. East Texas Research Conference (ETRC), University of Texas at Tyler, Texas, April 2024.
16. Gunavanthi D. Boorgula, Tawanda Gumbo, Sanjay Singh, **Shashikant Srivastava**. New drug susceptibility testing method of omadacycline against non-tuberculous mycobacteria using a biocatalytic oxygen-reduction agent. East Texas Research Conference (ETRC), University of Texas at Tyler, Texas, April 2024.
17. Sanjay Singh, Rie Yotsu, **Shashikant Srivastava**. Sui generis pharmacokinetics/pharmacodynamics optimized regimens for treatment of a rare disease - Buruli ulcer. East Texas Research Conference (ETRC), University of Texas at Tyler, Texas, April 2024.
18. P. Shankar, S. Singh, G. D. Boorgula, V. Vogensen, **S. Srivastava**. Imipenem Instability in Solution and Potential Effect on MIC Determination of *Mycobacterium abscessus*. ASM World Microb Forum, Houston, Texas, June 2023.
19. Sanjay Singh, Prem Shankar, Gunavanthi D Boorgula, Tania A. Thomas, Santosh Aryal, **Shashikant Srivastava**. Meropenem-vaborbactam restores the efficacy of first-line drugs' against MDR-TB. ASM World Microb Forum, Houston, Texas, June 2023.
20. **Sanjay Singh**, Prem Shankar, Shaikat, Gunavanthi D Boorgula, Santosh Aryal, Shashikant Srivastava. Sarecycline Pharmacokinetics-pharmacodynamics in the Hollow Fiber Model of *M. Avium* Complex. 2023 ATS International Conference, May 19-24, 2023, Washington, DC.
21. Gunavanthi D. Boorgula, Vanessa B. Vogensen, Prem Shankar, Sanjay Singh, **Shashikant Srivastava**. Optimizing Drug Susceptibility Testing for *Mycobacterium abscessus*. East Texas Research Conference (ETRC), 2023.
22. Sanjay Singh, Gunavanthi D. Boorgula, Prem Shankar¹, Tania A. Thomas, Vanessa B. Vogensen, Onno W. Akkerman, **Shashikant Srivastava**. Imipenem-relebactam with potential to restore the efficacy of first-line drugs and develop combination regimens to treat drug-resistant tuberculosis. East Texas Research Conference (ETRC), 2023.
23. S. Singh, G. D. Boorgula, P. Shankar, J. W. Alffenaar, T. Gumbo, **S. Srivastava**. Meropenem-vaborbactam In Combination with Old/new/repurposed Drugs for Treatment of MDR/XDR-TB. ASM World Microb Forum, Washington DC., June 2022.
24. Sanjay Singh, Prem Shankar, Gunavanthi D. Boorgula, Tawanda Gumbo, Scott K Heysell, **Shashikant Srivastava**. Omadacycline and challenges with determining MIC of nontuberculous mycobacteria. Colorado NTM Conference 2022.
25. **S. Srivastava**, J. Y. Wang, H. L. Huang, G. D. Boorgula, T. Gumbo. Treatment Of *Mycobacterium Kansasii* Pulmonary Disease. ASM World Microb Forum, June 2021.
26. **S. Srivastava**, T. Thomas, T. Gumbo. Combination Of Cefazolin-avibactam With Potential Efficacy Against Drug Resistant *Mycobacterium Tuberculosis*. ASM World Microb Forum, June 2021.
27. **S. Srivastava**, G. Magombedze, M. Chapagain, S. K. Heysell, T. Gumbo. The Novel Regimen of Rifapentine, Tedizolid, and Minocycline Is Potent and Could Shorten Therapy Duration for Pulmonary *Mycobacterium kansasii*. ATS International Conference, May 15-20, 2020; Philadelphia, USA.
28. **S. Srivastava**, M. Chapagain, T. Gumbo. Effect of Specimen Processing, Growth Supplement, and Different Metabolic Population of Mycobacterium Tuberculosis Laboratory Diagnosis. ATS International Conference, May 15-20, 2020; Philadelphia, USA.
29. **Shashikant Srivastava**, Jann-Yuan Wang, Gesham Magombedze, Moti Chapagain, Hung-Ling Huang, Jotam Pasipanodya, Devyani Deshpande, Scott K Heysell, Tawanda Gumbo: Short-course treatment regimen and morphism mapping for pulmonary *Mycobacterium kansasii*. ATS International Conference, May 17-22, 2019; Dallas, Texas, USA.
30. C. S. W. Siyambalapitiyage Dona, **S. Srivastava**, T. Gumbo. Amikacin (amk) Kills Slowly Replicating *Mycobacterium Tuberculosis* Under Acidic Ph: Potential for Sterilizing Activity. 55th Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-014).
31. B. E. Ferro, **S. Srivastava**, J. van Ingen, D. Deshpande, C. Sherman, J. G. Pasipanodya, D. van Soolingen, J. W. Mouton, T. Gumbo. A-014b - Amikacin Pharmacokinetics/pharmacodynamics in a Novel Hollow Fiber

- Mycobacterium abscessus* Model Reveals Extremely Low Efficacy. 55th Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-014b).
32. **S. Srivastava**, S. P. van Rijn, L. Z. Al-Rashed, J. W. C. Alffenaar, T. Gumbo. Drug Susceptibility Testing (DST) of Unstable Antimicrobial Drugs; Example of Ertapenem (ETP) Against *Mycobacterium tuberculosis* (Mtb). 55th Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-014b).
 33. J. G. Pasipanodya, R. Hall, II, G. Narendran, H. McIlleron, B. Magazi, **S. Srivastava**, D. Deshpande, S. Swaminathan, T. Gumbo. Emergence of Acquired Drug Resistant Tuberculosis is a Stochastic Levy Process: The End of Doublespeak and Doublethink! 55th Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# P-894c).
 34. **S. Srivastava**, D. Deshpande, V. Manthathi, C. Sherman, K. Cirrincione, T. Gumbo. Linezolid (LZD) Has Excellent Sterilizing Effect Against *Mycobacterium tuberculosis* (Mtb) at Less Toxic Doses of Monotherapy and Combination Therapy. Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-006).
 35. D. Deshpande, **S. Srivastava**, K. Cirrincione, J. Pasipanodya, T. Gumbo. Linezolid for Babies with Disseminated Tuberculosis. Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-957).
 36. B. E. Ferro, **S. Srivastava**, J. van Ingen, D. Deshpande, C. Sherman, J. G. Pasipanodya, D. van Soolingen, J. W. Mouton, T. Gumbo. Moxifloxacin Efficacy in a Hollow-fiber Model of *Mycobacterium abscessus* Disease. Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-014c).
 37. **S. Srivastava**, D. Deshpande, J. G. Pasipanodya, V. Manthathi, C. Siyambalapitiyage, C. Sherman, K. Cirrincione, T. Gumbo. REMox Design Can Shorten Tuberculosis (TB) Treatment Duration if Higher Doses Are Used. Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-008).
 38. B. Magazi, **S. Srivastava**, J. Pasipanodya, N. Mbelle, T. Gumbo. The Role of Efflux Pumps and mutations Outside Rifampin Resistance Determining Region (RRDR) in Multidrug-resistant Tuberculosis (MDR-TB): Xpert Needs Help in Detecting Rifampin Resistance! Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# D-688).
 39. B. E. Ferro, **S. Srivastava**, J. van Ingen, D. Deshpande, C. Sherman, J. G. Pasipanodya, D. van Soolingen, J. W. Mouton, T. Gumbo. A-014d - Tigecycline Exhibits Bactericidal Activity Against *Mycobacterium abscessus* in the Hollow Fiber Model. Annual ICAAC Annual Meeting, Sept 17-21, 2015 San Diego, CA, USA (Poster# A-014d).
 40. **S. Srivastava**, C. Liang, S. Musuka, E. Wakeland, T. Gumbo. Antimycobacterial mechanisms of effect of phenothiazines based on RNA sequencing. 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (Control Number: C-2019).
 41. J. Pasipanodya, **S. Srivastava**, T. Gumbo. Poor long-term tuberculosis (TB) treatment outcomes despite adherence to directly observed treatments (DOT). 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA.
 42. **Srivastava S**; Shuford S; Sherman C; Crosswell, H; Pasipanodya J; Gumbo T. Pyrazinamide dose-ranging study to assess efficacy and toxicity in a pediatric intracellular hollow fiber model of tuberculosis (PHFTB) with a human organoid liver: first blood. 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (Control Number: A-021).
 43. **Srivastava S**; Shuford S; Sherman C; Crosswell, H; Pasipanodya J; Gumbo T. Dramatic sterilizing effect of high dose rifampin (R), pyrazinamide (Z) and moxifloxacin (M) regimen for pediatric tuberculosis in a hollow fiber model with an organoid 3D liver: shock and awe! 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (Control Number: A-022).
 44. **Srivastava S**; Raj P; Liang C; Wakeland E; Gumbo T. Whole transcriptome approach reveals reasons for tolerance and increased drug-resistance mutations in semi-dormant and non-replicating persistent tubercle bacilli. 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (Control Number: B-1356).
 45. J. Pasipanodya, **S. Srivastava**, T. Gumbo. Patients treat for pulmonary tuberculosis (PTB) still have poor long-term outcome despite adherence to directly observed treatments (DOT). 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (L-1065).
 46. J. Pasipanodya, D. Kaushal, **S. Srivastava**, I. Dozmorov, E. Wakeland, K. dhedha, T. Gumbo. RNASequencing of lung lesions reveals that damage occurs even in latent tuberculosis infection as in active

- disease: targets for therapy. 54th Annual ICAAC Annual Meeting, Sept 6-9, 2014 Washington DC, USA (Control Number: B-1358).
47. **Srivastava S**, Raj, P, Liang C, Wakeland, E, Gumbo T. Whole transcriptome approach reveals reasons for tolerance and increased drug resistance mutations in semi-dormant and non-replicating persistent tubercle bacilli. (Control Number: B-1356)
 48. Gumbo T, Shuford S, **Srivastava S**, Sherman C, Widener R, Crosswell H. A Long-Term Perfused Immune-Liver Co-culture System to Model Antituberculosis Efficacy and Drug-Induced Liver Injury. 53rd Annual Meeting and ToxExpo, Society of toxicology, Mar 23-27, 2014 Phoenix, Arizona, USA (Poster#1876).
 49. **Srivastava S**, Sherman C, Gumbo T. Bactericidal and sterilizing activities of anti-tuberculosis drugs during the first 28 days: A Prequel. 53rd Annual ICAAC Annual Meeting, Sept 10-14, 2013 Denver, CO, USA (Control#2414).
 50. **Srivastava S**, Sherman C, Gumbo T. Clofazimine Pharmacokinetics/Pharmacodynamics (PK/PD) In The Hollow Fiber System (HFS). 53rd Annual ICAAC Annual Meeting, Sept 10-14, 2013 Denver, CO, USA (Control/Tracking Number: 2013-A-1687-ASM-ICAAC).
 51. **Srivastava S**, Sherman C, Gumbo T. Moxifloxacin PK/PD properties and the role of efflux pumps in a novel hollow fiber model of *Mycobacterium kansasii*. 5th International Workshop on Clinical Pharmacology of TB drugs. September 8, 2012; San Francisco, CA.
 52. A. Schmalstieg, **S. Srivastava**, D. Deshpande, C. Meek, R. Leff, T. Gumbo. Efflux pump induction is the first step in development of azithromycin resistance by disseminated *Mycobacterium avium* complex. 51th Annual ICAAC Annual Meeting, Sept 17-21, 2011 Chicago, USA (Control/Tracking Number: 2011-LB-3382-ASM-ICAAC).
 53. Jotam Pasopanodya, **Shashikant Srivastava**, Tawanda Gumbo. Pharmacokinetic variability predicts failure of anti-TB therapy better than DOTS program performance. 4th International Workshop on Clinical Pharmacology of TB drugs. September 16, 2011, Chicago, IL.
 54. **Shashikant Srivastava**, Aneta Wozniakowski, Jotam Pasipanodya, Tawanda Gumbo. Treatment failure and emergence of resistance during non-compliance in an experimental TB model. 3rd International Workshop on Clinical Pharmacology of TB drugs. September 11, 2010, Boston, Massachusetts, U.S.A.
 55. **S. Srivastava**, D. Deshpande, A. Wozniakowski, T. Gumbo. Thioridazine (THI)-moxifloxacin (MOX) is thousand fold more active than ethambutol (EMB)-azithromycin (AZI) for disseminated *Mycobacterium avium* infection (MAI). 50th Annual ICAAC Annual Meeting, Sept 12-15, 2010 Boston, USA (Abstract Control Number: 2885).
 56. **Shashikant Srivastava**, Carleton Sherman, Tawanda Gumbo. Examining the effective monotherapy hypothesis for resistance emergence in a hollow fiber model for sterilizing effect. Gordon Research Conferences, Aug 16-21, Oxford, U.K.
 57. **S. Srivastava**, C. Sherman, T. Gumbo. 100% is Compliance Necessary to Prevent Anti-tuberculosis Drug Resistance. Give me a Break. 49th Annual ICAAC Annual Meeting, Sept 12-15, 2009 San Francisco, USA (Abstract Number: A1-599).
 58. **S. Srivastava**, C. Sherman, T. Gumbo. Pharmacokinetic Mismatch Hypothesis And Emergence Of Antituberculosis Drug Resistance. Falsified!. 49th Annual ICAAC Annual Meeting, Sept 12-15, 2009 San Francisco, USA (Abstract Number: A1-600).
 59. D. Deshpande, **S. Srivastava**, T. Gumbo. Pharmacokinetic-Pharmacodynamic Model of Intracellular *Mycobacterium avium* Infection For Moxifloxacin Dose Selection. 49th Annual ICAAC Annual Meeting, Sept 12-15, 2009 San Francisco, USA (Abstract Number: A1-602).
 60. D. Deshpande, **S. Srivastava**, T. Gumbo. **Thioridazine As Chemotherapy Against Extracellular and Intracellular Mycobacterium Avium**. 49th Annual ICAAC Annual Meeting, Sept 12-15, 2009 San Francisco, USA (Abstract Number: A1-601).
 61. **Srivastava S**, A Ayyagari, TN Dhole, SK Dwivedi, KK Nyati, T Gumbo. *embB306* mutation is the most common nucleotide polymorphism rather than drug resistance marker of ethambutol in *Mycobacterium tuberculosis*. 48th Annual ICAAC/IDSA 46th Annual Meeting, Oct 25-28, 2008 Washington DC, USA (Abstract Number # C2-1986).
 62. CW Siyambalapitiyage Dona, **S Srivastava**, S Musuka, T Gumbo. Efflux Pumps Limit The Role of Ethambutol Anti-TB Therapy: A PK-PD Approach. 48th Annual ICAAC/IDSA 46th Annual Meeting, Oct 25-28, 2008 Washington DC, USA (Abstract Number # A-1822).

63. S Musuka, W Siyambalapitiyage, **S Srivastava**, T Gumbo. Thioridazine (Thio) Has Dramatic Sterilizing Effect Against Extracellular Tubercle Bacilli. 48th Annual ICAAC/IDSA 46th Annual Meeting, Oct 25-28, 2008 Washington DC, USA. (Abstract Number # A-1821).
64. **Shashikant Srivastava**, Archana Ayyagari, Tapan N Dhole, Kishan K Nyati, Narendra Krishnani, Shiv K Dwivedi. Study of immunopathological response in Balb/c mice after infection with ethambutol resistant *Mycobacterium tuberculosis*. 107th Annual Conference of American society of Microbiology, May 21-24, 2007, Toronto, Canada. (Abstract Number: U-016).
65. Musuka S, Srivastava S, Gumbo T. Centrality of efflux pump inhibitors in accelerating anti-TB therapy. 4th Annual NIH Director's Pioneer Award Symposium. NIH, Bethesda, MD, September 23, 2008.
66. **Shashikant Srivastava**, Archana Ayyagari, Tapan N Dhole, Kishan K Nyati, Narendra Krishnani, Shiv K Dwivedi. Higher production of nitric oxide leads to exacerbated lung pathology in Balb/c mice challenged with drug resistant *Mycobacterium tuberculosis*. 107th Annual Conference of American society of Microbiology, May 21-24, 2007, Toronto, Canada. (Abstract Number: U-017).
67. **Srivastava S**, Ayyagari A, Nyati KK, Dhole TN, and Dwivedi SK. *in vitro* expression of TNF- α , IFN- γ and NO by human PBMC stimulated with drug resistant strains of *Mycobacterium tuberculosis*. 30th National Congress of Indian Association of Medical Microbiologists, Oct. 27-29, 2006, Nagpur, India. (Abstract No.OMB-8)
68. Sahoo SK, **Srivastava S**, Nyati KK, Ghar M, and Ayyagari A. Capsular typing of *Haemophilus influenzae* by polymerase chain reaction. 30th National Congress of Indian Association of Medical Microbiologists, Oct. 27-29, 2006, Nagpur, India. (Abstract No.OB-28)
69. Bhargava A, Jaiswal S, **Shashikant**, Ayyagari A, Kastury N and Kapoor AK. Study of extended spectrum beta lactamases (ESBL) production in urinary isolates. 30th National Congress of Indian Association of Medical Microbiologists, Oct. 27-29, 2006, Nagpur, India. (Abstract No.PB-62).
70. **Srivastava S**, Ayyagari A, Nyati KK, Dhole TN, Dwivedi SK *embB* and *embC* gene nucleotide polymorphism in ethambutol resistant clinical isolates in and around Lucknow, India. 106th Annual Meeting of American Society of Microbiologist, Florida, USA, May 21-23, 2006. (Abstract No. U003).
71. **Srivastava S**, Ayyagari A, Dwivedi SK. Isolation and molecular characterization of *Helicobacter pylori* from dental plaque. 1st Annual conference on Environmental diversity and Global Issues, BBA University, Lucknow, India, Feb 17-19, 2006. (Abstract No.100).
72. **Srivastava S**, Garg A, Ayyagari A, Pal S, Dhole TN. Antimycobacterial drug sensitivity profile of *Mycobacterium tuberculosis* isolates from relapse or treatment failure cases: SGPGIMS experience. 2nd Annual congress of UP Chapter-IAMM (UP MICROCON-2006) MLB Medical College, Jhansi, U.P., Feb 11-12, 2006. (Abstract No. 16).
73. **Srivastava S**, Mishra KK, Ayyagari A, Saxena A, Prasad KN. Detection of *Helicobacter pylori* by various methods and its antibacterial sensitivity. 2nd Annual congress of UP Chapter-IAMM (UP MICROCON-2006), MLB Medical College, Jhansi, U.P., Feb 11-12, 2006. (Abstract No. 20).
74. Ashish Saxena, KN Prasad, UC Ghoshal, SK Yachha, **S Srivastava** and A Ayyagari. *Helicobacter pylori* Infection in Various Gastroduodenal Disorders. 2nd Annual congress of UP Chapter-IAMM (UP MICROCON-2006) MLB Medical College, Jhansi, U.P., Feb 11-12, 2006. (Abstract No. 7).
75. A Ayyagari, U Ghoshal, **S Srivastava**, D Sharma. Spectrum and application of telemedicine in microbiology and infectious disease: An audit from 2001-2005 at SGPGIMS, Lucknow, India. 4th Asia Pacific Telemedicine conference, Rawalpindi, Pakistan, Jan 26-27, 2006.
76. Ankita Garg, **S Srivastava**, VM Katoch, TN Dhole, Archana Ayyagari. *embB* gene mutations associated with ethambutol resistant Indian strains of *Mycobacterium tuberculosis*. 29th National Congress of Indian Association of Medical Microbiologists, Oct. 19-23, 2005, Chennai, India. (Abstract No. MB-P23)
77. **Srivastava S**, Dwivedi PP, Mishra KK, Ayyagari A, Dwivedi SK. Genotyping of *Helicobacter pylori* from dental plaque and comparison with strains isolated from gastric biopsy. 28th National Congress of Indian Association of Medical Microbiologists, Nov. 25-28, 2004, Lucknow, India. (Abstract No. BP-110)
78. Ankita Garg, Narendra Krishnani, **Srivastava S**, Dwivedi PP, Ayyagari A. Effect of ethambutol resistant *Mycobacterium tuberculosis* on disease progression in Balb/c mice. 28th National Congress of Indian Association of Medical Microbiologists, Nov. 25-28, 2004, Lucknow, India. (Abstract No. BP-94).
79. PP Dwivedi, **S Srivastava**, A Garg, A Ayyagari. Colonization, apoptosis, cytokine response in Mongolian gerbils induced by *Helicobacter pylori* strains. 30th Annual conference of Indian Immunology Society, 23-25 November 2003, Lucknow, India. (Abstract No. P41)

80. Garg A, N Krishnani, PP Dwivedi, **S Srivastava**, A Ayyagari. IFN-g, TNF-a, Nitric oxide expression and progression of disease in Balb/c mice following infection with ethambutol resistant *M. tuberculosis*. 30th Annual conference of Indian Immunology Society, 23-25 November 2003, Lucknow, India. (Abstract No. O-20)
81. Ayyagari, K. K. Mishra, P. P. Dwivedi, **S. Srivastava**, S. R. Naik; SGPGIMS, Lucknow, INDIA. Predominant TH1 type immune response induced during acute *Helicobacter pylori* infection. American Society for Microbiology, 102nd General Meeting. Salt Lake City, Utah, May 19-23, 2002. (Abstract No. D-47). Kanchan Kumar Mishra, **Shashikant Srivastava**, Prabhat Povel Dwivedi, Kashi Nath Prasad, Archana Ayyagari, Subash Raghuveer Naik. PCR and RFLP analysis of *ureC* gene for identification and typing Indian *Helicobacter pylori* strains directly from gastric biopsy specimens. 40th American Society for Cell Biology Annual Meeting December 9-13, 2000, San Francisco, CA, USA. (Abstract No. 665).
82. KK. Mishra, **S. Srivastava**, KN Prasad, A. Ayyagari and SR Naik. Does the therapy affect the detection of *H. Pylori* by various methods? The Golden Jubilee IAPM National Conference. Nov. 21-25, 1999, Lucknow, India.
83. KK Mishra, A. Chandra, A. Ayyagari, KN Prasad and **S. Srivastava**. Rapid detection and identification of *Helicobacter pylori* by polymerase chain reaction. Annual Conference of Indian Medical Microbiology, Dec.1998, Manipal, India.

Visiting Professorships:

BSL-3 training and extraction of nucleic acid techniques to the graduate students and Research Fellows from University of Limpopo, University of Pretoria, and Medical Research Council. 2015

SEQUENCES SUBMISSION TO GENBANK

1.	Whole genome sequence of 11 isoniazid resistant <i>Mycobacterium kansasii</i> isolates. BioProject ID: PRJNA783026, http://www.ncbi.nlm.nih.gov/bioproject/783026
2.	Srivastava S , Garg A, Ayyagari A, Nyati KK, Dhole TN, Dwivedi SK. <i>embB</i> mutation in low level ethambutol resistant <i>M. tuberculosis</i> . (n=8) Accession Numbers: AJ579703-07, AY 198118 -20
3.	Srivastava S , Nyati KK, Ayyagari A, Dhole TN and Dwivedi SK. <i>M. tuberculosis</i> putative arabinosyltransferase (<i>embB</i>) gene. (n=23) Accession Number: DQ228945, DQ340812–DQ 340815, EF376189–EF376193, EF418953 – EF418958, EF434313–EF434323
4.	Srivastava S , Nyati KK, Ayyagari A, Dwivedi SK and Dhole TN. <i>embC</i> gene mutations in ethambutol resistant clinical isolate of <i>M. tuberculosis</i> . (n=1) Accession Number: DQ340811
5.	Kishore J, Srivastava S . Partial nucleotide sequence of dengue type 3 virus isolated during 2003 epidemic at Lucknow, India. (n=1) Accession Number: DQ810788
6.	Srivastava S , Nyati KK, Ayyagari A, Dwivedi SK and Dhole TN. <i>embC</i> gene mutations in ethambutol resistant clinical isolate of <i>M. tuberculosis</i> from Lucknow region. (n=9) Accession Number: DQ840200-DQ840202, DQ869262-DQ869268
7.	Raza ST, Husain N, Srivastava S . Homo sapiens coagulation factor VIII (F8) gene, exon 4, partial cds. (n=5) Accession No. DQ883813, DQ910174-77
8.	Srivastava S , Nyati KK, Ayyagari A, Dwivedi SK and Dhole TN. <i>embR</i> gene mutations in ethambutol resistant clinical isolate of <i>M. tuberculosis</i> . (n=12) Accession No. EF371906-17

Microarray design for *M. tuberculosis* and *M. avium* complex

- M. tuberculosis* custom microarray design ID #039100, product number #G2509F is available with Agilent Technologies for public use. The microarray was designed using *M. tuberculosis* genome NC_000962 in an 8x15K 60mer format including 3334 features with 536 controls, all in triplicate. (Feb 2016).

- *M. avium* custom microarray design ID #039101, is available with Agilent Technologies. The microarray was designed using *M. avium* genome NC_008595 in an 8x15K 60mer format including 4842 features with 536 controls, all in triplicate. (Feb 2016).

IBC/IRB PROTOCOLS

- 2024-170. Clinical and Microbiological outcomes of guideline-based vs other treatment regimens in nontuberculous mycobacteria (NTM)
- 2018-1xx. Short course treatment regimen for *M. kansasii*. Reference Number: 3xxxxx
- 2015-xxx. Hollow Fiber System Sub-Grant, Critical Path to TB Drug Regimen (HFS-TB).
- 2019-19xxx. PK/PD studies to optimize drugs for *M. tuberculosis* complex and non-tuberculous mycobacteria.
- 20-013. Pharmacokinetic optimization of drugs for the treatment of tuberculosis using the hollow fiber model.
- 2020#203. Development of PK/PD optimized combination regimens for nontuberculous mycobacteria using the hollow fiber model system.

RESEARCH EXPERIENCE

I acquired the expertise in hollow fiber system model of tuberculosis (HFS-TB) for adult pulmonary tuberculosis disease to perform pharmacokinetic/pharmacodynamic studies for dose optimization during my extensive postdoctoral training. I further perfected the HFS-TB and designed a model system for pediatric tuberculosis to study the efficacy and toxicity of drugs simultaneously in the same systems. The pediatric HFS-TB model, when combined with the next-generation sequencing (including host-pathogen RNASeq and data analysis methods I established during my postdoctoral training), could be used to correlate the PK/PD parameters with efficacy, acquired drug resistance, drug-related adverse events and transcriptional changes in the host and the pathogen. Regarding the non-tuberculous mycobacteria, I have developed a hollow fiber model for *M. avium* complex, *M. kansasii*, and *M. abscessus* that we used to design novel treatment regimens for these hard-to-treat infections. I have a broad background in microbiology and pharmacology with specific training and expertise in mycobacterial research and generous experience in bioinformatics to analyze sequencing data. I am one of the team leaders whose work led to the approval of the HFS-TB as a preclinical drug development tool by the European Medicines Agency and endorsement by the Food & Drug Administration, USA.

CONTRIBUTIONS TO THE SCIENCE:

1. **Established pharmacokinetic variability, not treatment non-compliance, as the primary cause of acquired drug resistance in *M. tuberculosis*.** I strongly believe that global health polices, which affect the health of millions, should be subjected to hypothesis testing. Using the hollow fiber model of tuberculosis, I challenged the utility of the non-adherence component of the DOTS program and established that a patient's non-adherence to the anti-tuberculosis therapy is not the primary cause of emergence of drug resistance and a very high degree of non-adherence to the treatment is required for the failure of the therapy. This is contrary to the present clinical practice where a patient is put on the therapy from the very beginning even after missing about 20% of the recommended doses. The same study also addressed how the pattern of non-adherence results in different outcomes of the therapy.

In addition to challenging the DOTS, I examined and proved that two other theories that had been proposed for the mechanism of emergence of drug resistant tuberculosis during the course of therapy, namely pharmacokinetics mismatch and effective monotherapy, are erroneous. These studies demonstrated that the current doses of the anti-tuberculosis drugs are not adequate in the prevention of emergence of the drug resistance, and I proposed that pharmacogenomics factors should also be taken into consideration while choosing a dose and designing an effective treatment regimen. Using the hollow fiber model and computer aided clinical trial simulation, I demonstrated that efflux pumps play an important role in the

development of drug resistance in tuberculosis in the absence of chromosomal mutations. Since then, numerous clinical studies have supported our findings.

2. **Designed oral treatment regimen for children with MDR-TB.** The treatment of tuberculosis in babies and toddlers is not optimized. The current treatment regimens are copied from adults with pulmonary tuberculosis, while the diseases in children less than two years is predominantly intracellular. Toxicity of the drugs and the lack of a good preclinical model hamper the development of new therapeutic regimens for this highly vulnerable population. I have developed a preclinical hollow fiber model of tuberculosis to simultaneously determine the efficacy and toxicity of the drugs. I also showed that pyrazinamide, a key drug in the standard combination therapy, does not work against the intracellular *M. tuberculosis*. I used host-pathogen RNA sequencing to demonstrate the possible mechanism behind the lack of pyrazinamide intracellular efficacy. Next, using the hollow fiber model, I designed a combination regimen for treatment of drug-resistant tuberculosis in children. This is an oral treatment regimen comprised of linezolid, faropenem, and moxifloxacin with doses optimized for different pediatric age groups. The same study also established the linezolid exposure and mitochondrial toxicity using the RNASeq and mathematical modeling approach.
3. **First in human studies to show there is a drug concentration gradient in the lung cavities and difference between the lung tissue and blood immune signatures.** While I established that the population pharmacokinetic variability led to acquired drug resistance, there was hardly any information available about within patient pharmacokinetic variability. For the first time, we measured drug concentrations from seven different anatomic position in the lung samples collected from MDR/XDR-TB and measured the drugs concentrations. In the same study we also performed whole genome sequencing of the *M. tuberculosis* isolates as well as RNASequencing on the lung samples to show that there is a drug concentration gradient in the different anatomic positions and the immune response and signature varies between these anatomic positions.
4. **Human lung challenge model to evaluate the safety and immunogenicity of PPD and live BCG.** In collaboration with Prof. Keertan Dheda, we performed the 'First-in-man study' demonstrating that bronchoscopic instillation of live BCG and PPD into the lungs of healthy participants, result in a gradient of TB susceptibility. This study demonstrated the safety and feasibility of a lung orientated mycobacterial human infection model and provided a solid foundation for the advancement of several lines of research including (i) the study TB immunopathogenesis, (ii) identification of biosignatures of TB risk, (iii) development of better models to evaluate vaccine efficacy, and (iv) optimization of the route of vaccine delivery (respiratory tract versus intradermal).
5. **Developed a dynamic imaging tool** to perform unbiased, noninvasive, and multicompartments measurements of antimicrobial concentration-time profiles in humans.
6. **Optimized doses of new/old/repurposed drugs for treatment of non-tuberculosis mycobacteria.** Tuberculosis is a major problem in immune-compromised patients such as HIV/AIDS and cancer patients, where the disease is caused by non-tuberculous mycobacteria, especially *M. avium* complex organisms (MAC), *M. kansasii*, and *M. abscessus*. I developed intracellular HFS-TB models for these organisms and established the PK/PD optimized doses of a number of drugs for efficacy against the NTMs, described the mechanism of drug resistance emerges, and identified the PK/PD optimized dose of the drugs to prevent emergence of drug resistance. The proposal to conduct a multicenter, multinational clinical trial for a short course regimen to treat *M. kansasii* pulmonary disease is submitted to NIAID, awaiting decision on concept and proposed budget.
7. **Developed a mathematical mapping system from disease models to patients and back to preclinical models for drug development.** Using the hollow fiber model system data and clinical data from patients, we applied [i] homomorphism mapping and set theory, [ii] extinction mathematics, [iii] non-linear functions, and [iv] Latin Hypercube sampling to develop such translational and morphism mapping platform for *M. tuberculosis* as well as for *M. kansasii*. Similar model development for MAC is underdevelopment including the estimation of samples size and sampling intervals to differentiate treatment responders versus non-responders.
8. **Discovery of miRNA in *M. tuberculosis*.** Using the deep sequencing and bioinformatics algorithm I discovered *M. tuberculosis* produces miRNA like small RNAs during the infection. The laboratory findings were confirmed in non-human primate model (Rhesus macaque with pulmonary or latent tuberculosis), and

in human lung samples. Thus far we have identified 35 miRNAs in *M. tuberculosis*. More studies to determine the mechanism of action of these *M. tuberculosis* miRNAs and affected pathways are in progress.

9. **Host immune responses upon infection with ethambutol resistant *M. tuberculosis*.** The research findings of my doctoral thesis concluded that infection with ethambutol-resistant *M. tuberculosis* leads to chronic infection and vigorous immune response in the infected animals, which is characterized by enhanced production of inflammatory cytokines TNF- α and IFN- γ . I demonstrated that the increased expression of inducible nitric oxide could be a defense mechanism of the host macrophages cells to kill even the intracellular *M. tuberculosis*. In addition, I collected *M. tuberculosis* clinical strains from different parts of north India and sequenced the genes responsible for the drug resistance to anti-tuberculosis drug ethambutol. This project led to the discovery of several novel mutations in the ethambutol resistance genes, and the findings established a correlation between these mutations and the magnitude of the acquired ethambutol resistance. As a follow-up of this study, I further established that resistance to ethambutol increases the chances of developing resistance to other anti-tuberculosis drugs. This efflux pump hypothesis was later confirmed by us in the hollow fiber model and others in the Zebra fish model, as well as in clinical *M. tuberculosis* strains that were phenotypically resistant without a genetic mutation.
10. **Developed a rapid diagnostic test for detection of *H. pylori*** in gastric biopsy and dental plaque samples of patients. In addition to the mycobacteria research, I have interest in the pathogen causing the gastro-duodenal diseases, especially *Helicobacter pylori*.