

Technical Review Panel Member

Curriculum Vitae

Name: **Sarita Shah**
 Nationality: **United States**
 Additional languages: **English**
 Expertise: **HIV, TB**

Qualifications

Qualification	Institution	Department	Year
Bachelor of Arts (Biology)	Johns Hopkins University, Baltimore, MD, USA	School of Arts & Sciences	1992–1996
Doctor of Medicine	Johns Hopkins School of Medicine, Baltimore, MD, USA	School of Medicine	1996–2000
Internal Medicine Residency	Columbia-Presbyterian Medical Center, New York, NY, USA	Department of Medicine	2000–2003
Masters of Public Health	Columbia Mailman School of Public Health, New York, NY, USA	Epidemiology	2003–2004
Fellowship	Centers for Disease Control and Prevention, Atlanta, GA, USA	Epidemic Intelligence Service Officer, Division of Tuberculosis Elimination, International Research and Programs Branch	2004–2006

Employment History

Employer	Position	Place	Year
Columbia-Presbyterian Medical Center	Instructor in Clinical Medicine, <i>Division of General Internal Medicine</i>	New York, NY, USA	2003–2004
Albert Einstein College of Medicine	Assistant Professor of Medicine, <i>Divisions of General Internal Medicine & Infectious Diseases</i> Assistant Professor of Epidemiology & Population Health	New York, NY, USA	2006–2011

Albert Einstein College of Medicine	Associate Professor of Medicine, Divisions of General Internal Medicine & Infectious Diseases	New York, NY, USA	2011–2012
Centers for Disease Control & Prevention	Associate Chief for Science; Team Lead for Epidemiology & Evaluation, Division of TB Elimination, International Research and Programs Branch	Atlanta, GA, USA	2012–2015
Centers for Disease Control & Prevention	Associate Chief for Science, Division of Global HIV & TB Elimination, Global TB Branch	Atlanta, GA, USA	2015–2019
Centers for Disease Control & Prevention	Acting Team Lead for Program Strengthening & Evaluation, Division of Global HIV & TB Elimination, Global TB Branch	Atlanta, GA, USA	2019–2020
Atlanta Veterans Affairs Medical Center	Attending Physician, Infectious Diseases Clinic	Atlanta, GA, USA	2015–present
Emory University	Associate Professor of Global Health, Epidemiology & Infectious Diseases, Rollins School of Public Health & School of Medicine	Atlanta, GA, USA	2020–present

Relevant Publications

1. **Shah NS**, Auld SC, Brust JCM, Mathema B, Mthiyane T, Ismail N, Allana S, Shaskina E, Campbell A, Mlisana K, Morris N, Kreiswirth B, Moodley P, Gandhi NR. Transmission of HIV-associated Extensively Drug-resistant Tuberculosis – KwaZulu-Natal, South Africa. *New England Journal of Medicine*. 2017;376:243-253.
2. Allana S, Shaskina E, Mathema B, Tukvadze N, Babiashvili N, **Shah NS**, Kempker RR, Blumberg HM, Moodley P, Mllisana K, Brust JCM, Gandhi NR. Genotypic Characterization of *pncA* Gene in Patients with Multidrug- and Extensively Drug-Resistant Tuberculosis in South Africa & Georgia. *Emerging Infectious Diseases*. 2017;23:491-494.
3. Arlehamn CSL, Copin R, Leary S, Mack SJ, Phillips E, Mallal S, Sette A, Blatner G, Siefers H, Ernst JD, for the **TBRU-ASTRa Study Team**. Sequence-based HLA-A, B, C, DP, DQ and DR typing of 100 Luo infants from the Boro area of Nyanza Province, Kenya. *Human Immunology*. 2017;78:325-326.
4. Smith E, Pratt R, Trieu L, Barry PM, Thai DT, Ahuja SD, **Shah NS**. Epidemiology of Pediatric Multidrug-resistant Tuberculosis in the United States, 1993–2014. *Clinical Infectious Diseases*. 2017;65:1437-1443.
5. Magee MJ, Sun YV, Brust JCM, **Shah NS**, Ning Y, Allana S, Campbell A, Hui Q, Mlisana K, Moodley P, Gandhi NR. Polymorphisms in the vitamin D receptor gene reduce the rate of sputum culture conversion in multidrug-resistant tuberculosis patients in South Africa. *PLoS ONE*. 2017;12(7):e0180916.
6. Reaves EJ, **Shah NS**, France AM, Morris SB, Kammerer S, Skarbinski J, Bradley H. Tuberculosis Screening among Persons in Clinical Care for HIV Infection – Results from the Medical Monitoring Project, 2010–2012. *International Journal of Tuberculosis and Lung Diseases*. 2017;21:1118–1126.
7. Kapwata T, Morris N, Mthiyane T, Mpangase P, Campbell A, Allana S, Nelson KN, Brust JCM, Moodley P, Gandhi NR, **Shah NS**. Spatial distribution and cluster analysis of extensively drug-resistant tuberculosis (XDR TB) in KwaZulu-Natal, South Africa. *PLoS*

ONE. 2017;12(10):e0181797.

8. Wild V, Jaff D, **Shah NS**, Frick M. Ethics and human rights of tuberculosis care along the migration route and beyond: State of the Art series. *International Journal of Tuberculosis and Lung Diseases*. 2017;21:1075–1085.
9. Churchyard G, Kim P, **Shah NS**, Rustomjee R, Gandhi NR, Mathema B, Dowdy D, Kasmar A, Cardenas V. What do we know about tuberculosis transmission? *Journal of Infectious Diseases*. 2017;216:S629–S635.
10. Auld SC, Kasmar AG, Dowdy DW, Mathema B, Gandhi NR, Churchyard G, Rustomjee R, **Shah NS**. Research Roadmap for tuberculosis transmission science: Where to do we go from here and how will we know when we are there? *Journal of Infectious Diseases*. 2017;216:S662–S668.
11. Brust JCM, **Shah NS**, Campbell A, Ning Y, Allan S, Mthiyane T, Mlisana K, Moodley P, Master I, Johnson B, Gandhi NR. Improved survival and cure rates with concurrent MDR TB/HIV co-infection in South Africa. *Clinical Infectious Diseases*. 2018;66:1246–1253.
12. Harausz EP, Garcia-Prats AJ, Law S, Kredo T, Turkova A, Achar J, Amanullah F, Barry P, Becerra M, Chan ED, Chan PC, Chiotan DI, Cross A, Drobac PC, Fairle L, Falzon D, Flood J, Gegia M, Hicks RM, Isaakidis P, Kadri SM, Kampmann B, Madhi S, Marais E, Mariandyshev A, Mendez-Echevarria A, Moore BK, Ozere I, Padayatchi N, Rybak N, Santiago-Garcia B, **Shah NS**, Sharma S, Shim TS, Skrahina A, Soriano-Arandes A, van den Boom M, van der Werf M, Williams B, Yablokova E, Yim JJ, Furin J, Seddon JA, Schaaf HS, Menzies D, Hesselning A. Treatment outcomes in children with multidrug-resistant tuberculosis: A systematic review and individual patient data meta-analysis. *PLoS Medicine*. 2018;15(7): e1002591.
13. Whatney WE, Gandhi NR, Arlehamn CSL, Nizam A, Wu H, Quezada MJ, Campbell A, Allana S, Kabongo MM, Khayumbi J, Muchiri B, Ongalo J, Tonui J, Sasses LE, Fergus TJ, Ouma GS, Ouma SG, Beck AA, Mulligan MJ, Oladele A, Kaushal D, Cain KP, Waller L, Blumberg HM, Altman JD, Ernst JD, Rengarajan J, Day CL, for the **TBRU-ASTRa Study Group**. A high throughput whole blood assay for analysis of multiple antigen-specific T cell responses in human *Mycobacterium tuberculosis* infection. *Journal of Immunology*. 2018;200:3018–3019.
14. Swindells S, Gupta A, Kim S, Hughes M, Sanchez J, Mave V, Dawson R, Kumarasamy N, Comins K, Smith B, Rustomjee R, Naini L, **Shah NS**, Hesselning A, Churchyard G. Resource utilization and operational challenges in a multicountry feasibility study of household contact investigation of patients with multidrug-resistant tuberculosis (A5300/P2003). *International Journal of Tuberculosis and Lung Diseases*. 2018;22:1016–1022.
15. Nelson KN, **Shah NS**, Mathema B, he TS, Ismail N, Valley Omar S, Auld SC, Morris N, Campbell A, Allana S, Moodley P, Mlisana K, Brust JCM, Gandhi NR. Spatial patterns of extensively drug-resistant tuberculosis (XDR TB) transmission in KwaZulu-Natal, South Africa. *Journal of Infectious Diseases*. 2018;218:1964–1973.
16. Opollo V, Wu X, Lando R, Swindells S, Gupta A, Hesselning A, Dawson R, Hughes M, **Shah NS** on behalf of the A5300/I2003 Study Team. HIV test uptake among household contacts of MDR TB index cases in eight countries. *International Journal of Tuberculosis and Lung Diseases*. 2018;22:1443–1449.
17. Auld S, **Shah NS**, Mathema B, Brown TS, Ismail N, Omar SV, Brust JC, Nelson KN, Narechania A, Allana S, Campbell A, Mlisana K, Moodley P, Gandhi NR. Extensively drug-resistant tuberculosis transmission in KwaZulu-Natal, South Africa: an integrative analysis of epidemiologic and genomic links. *European Respiratory Journal*. 2018;52:1800246.
18. Auld SC, **Shah NS**, Cohen T, Martinson N, Gandhi NR. Where is tuberculosis transmission

happening? Insights from the literature and implications for the elimination of tuberculosis. *Respirology*. 2018;23:807–817.

19. Gandhi NR, Brust JCM, **Shah NS**. A new era for treatment of drug-resistant tuberculosis (Perspective). *European Respiratory Journal*. 2018;52:1801350.
20. Osman M, Harausz E, Garcia-Prats A, Schaaf SH, Moore BK, Hicks RM, Achar J, Farhana A, Pennan B, Becerra M, Chiotan DI, Drobac PC, Flood J, Furin J, Gegia M, Isaakidis P, Mariandyshev A, Ozere I, **Shah NS**, Skrahina A, Yablokova E, Seddon JA, Hesselning AC for The Collaborative Group for Meta-Analysis of Paediatric Individual Patient Data in MDR-TB. Children with extensively drug-resistant tuberculosis have excellent treatment outcomes: a systematic review and individual patient meta-analysis. *Emerging Infectious Diseases*. 2019;25:441–450.
21. Peterson ML, Gandhi NR, Clennon J, Nelson KN, Morris N, Ismail N, Allana S, Campbell A, Brust JCM, Auld SC, Mathema B, Mlisana K, Moodley P, **Shah NS**. Extensively drug-resistant ‘hotspots’ and association with sociodemographic associations in Durban, South Africa. *International Journal of Tuberculosis and Lung Diseases*. 2019;23:720–727.
22. Stephens F, Gandhi NR, Brust JCM, Mlisana K, Moodley P, Allana S, Campbell A, **Shah NS**. Treatment adherence among persons receiving concurrent MDR TB and HIV treatment in KwaZulu-Natal, South Africa. *Journal of AIDS*. 2019;82:124–130.
23. Brown TS, Challagundla L, Baugh EH, Omar SV, Mustaeve A, Auld SC, **Shah NS**, Kreiswirth BN, Brust JCM, Nelson KN, Narechania A, Kurepina N, Mlisana K, Bonneau R, Eldholm V, Ismail N, Kolokotronis S, Robinson DA, Gandhi NR, Mathema B. Pre-detection epidemic history, geographic origin, and compensatory evolution of extensively drug-resistant tuberculosis in KwaZulu-Natal, South Africa. *Proceedings of the National Academy of Sciences*. 2019;116:23284–23291.
24. Suryavanshi N, Murrill M, Gupta A, Hesselning A, Naini L, Jones L, Hughes M, Kim S, Smith B, Gupte N, Dawson R, Mave V, Mendoza A, Gonzales P, Kumarasamy N, Comins K, Conradie F, Shenje J, Nerette Fontain S, Garcia-Prats A, Asemelash A, Nedswan S, Peters D, Lalloo U, Garcia Ferreira AC, Okeyo E, Swindells S, Churchyard G, **Shah NS** on behalf of the A5300/I2003 Study Team. Knowledge, Attitudes and Practices about Multidrug-Resistant Tuberculosis (MDR-TB) and Preventive Therapy among Adult and Adolescent Household Contacts of MDR-TB Index Cases. *Clinical Infectious Diseases*. 2020 Jan 16;70(3):436-445.
25. Gupta A, Swindells S,* Kim S, Hughes M, Naini L, Wu X, Dawson R, Mave V, Sanchez J, Harrington M, Jones L, Cox S, Smith E, Hazra R, **Shah NS**,* Hesselning A,* Churchyard G.* A5300/I2003: Feasibility of identifying, recruiting, and characterizing adult MDR TB index cases and their adult and child household contacts on four continents. *Clinical Infectious Diseases*. 2020 Jan 16;70(3):425-435
26. Nelson KN, Jenness SM, Mathema B, Lopman BA, Auld SC, **Shah NS**, Brust JCM, Ismail N, Valley Omar S, Brown T, Allana S, Campbell A, Moodley P, Mlisana K, Gandhi NR. Social mixing and clinical features linked with transmission in a network of extensively drug-resistant (XDR) tuberculosis cases in KwaZulu-Natal, South Africa. *Clinical Infectious Diseases*. 2020;70(11):2396–402.
27. Smith J, Gandhi NR, **Shah NS**, Mlisana K, Moodley P, Johnson BA, Allana S, Campbell A, Nelson KN, Master I, Brust JCM. The impact of concurrent antiretroviral therapy and MDR-TB treatment on the development of adverse events: a prospective cohort study in Kwazulu-Natal, South Africa. *Journal of AIDS*. 2020;83:47–55.
28. Collins JM, Siddiq A, Jones DP, Liu KH, Kempker RR, Nizam A, **Shah NS**, Ismail N, Ouma SG, Tukvadze N, Li S, Day CL, Rengarajan J, Brust JCM, Gandhi NR, Ernst JD, Blumberg

HM, Ziegler TR. Tryptophan catabolism reflects disease activity in human tuberculosis. *JCI Insight*. 2020;5(10):e137131.

29. Nelson KN, Gandhi NR, Mathema B, Lopman BA, Brust JCM, Auld SC, Ismail N, Omar SV, Brown TS, Allana S, Campbell A, Mlisana K, Moodley P, **Shah NS**, Jenness SM. Modeling missing cases and transmission links in networks of extensively drug-resistant tuberculosis in KwaZulu-Natal, South Africa. *American Journal of Epidemiology*. 2020;189:735–745.
30. Opollo V, Lando R, Sun X, Miyahara S, Hosseinpour MC, Bisson GP, Kumwenda J, Gupta A, Nyirenda M, Ktendey K, Torres TS, Suryavanshi N, Beulah F, **Shah NS**. Health-related quality of life in the A5274 trial (REMEMBER) of empirical tuberculosis therapy versus isoniazid in adult outpatients with advanced HIV. *International Journal of Tuberculosis and Lung Diseases*. 2020;24:910–915.

Additional Information