MAY 2025 VOL. 27

TRAC Newsletter

Tuberculosis Research Advancement Center
Emory/Georgia

IN THIS ISSUE

The **3rd International Post-Tuberculosis Symposium** was held at the Stias Institute in Stellenbosch, South Africa, from April 14-16, 2025. The conference included 224 delegates from 134 institutions representing 31 countries across 6 continents. There were 22 TB survivors also in attendance. Multiple TRAC members led sessions and gave presentations, including Sara Auld, Matthew Magee, Michael Marll, Samhita Kumar, Anisha Rajaratnam. and Dzigbordi Kamasa-Quashie from Emory University, and TRAC Travel Accelerator Awardees,

Adenike McDonald from the University of Georgia and Dessa Casalme from De La Salle Medical and Health Sciences Institute, Philippines.

Anisha Rajaratnam won the conference "Best Poster" award for an analysis she co-led with INFIN-TB study collaborators looking at pulse wave velocity, a measure of subclinical cardiovascular disease, during and after TB treatment. **Sara Auld, MD MSc,** served on the Conference Steering Committee and was selected to serve on the Committee for the **4th International Post-TB Symposium**, which will take place in **Seoul, South Korea in 2027.**

INFIN-TB study team members. Left to right: Lerato Mngomezulu (The Aurum Institute), Vernice Peterson (University of the Witwatersrand), Gregory Bisson (University of Pennsylvania), Sara Auld (Emory), Anisha Rajaratnam (Emory), Samhita Kumar (Emory & The Carter Center), Tlhago Ngwanto (The Aurum Institute) and Nomsa Mofokeng (The Aurum Institute).

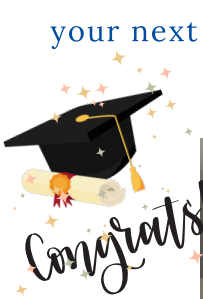
TRAC Travel Accerlator Awardees Adenike McDonald and Dessa Casalme.

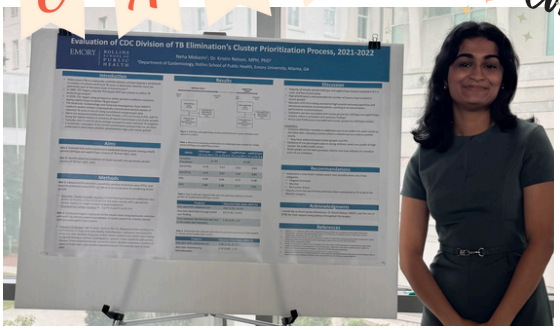
Welcome

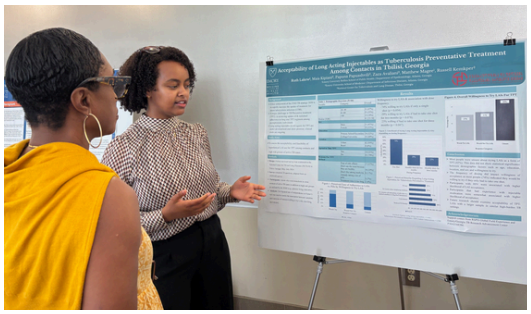
Welcome to **Zaynab Mousavian, PhD,** who recently joined Emory University as a postdoctoral researcher, working with **Drs. Jeffrey Collins and Matthew Magee.** Dr. Mousavian will be working on TB biomarker discovery using metabolite data and investigating connections between TB and non-communicable diseases like diabetes. She has a strong background in computer science, systems biology, and multi-omics analysis, and is deeply passionate about advancing precision medicine in infectious diseases, specifically in TB, through data integration and machine learning. Dr. Mousavian received her PhD in Bioinformatics from the University of Tehran, Iran, after which she worked at the Karolinska Institute, Stockholm, Sweden, and at University of California San Francisco on plasma protein biomarkers for active TB.

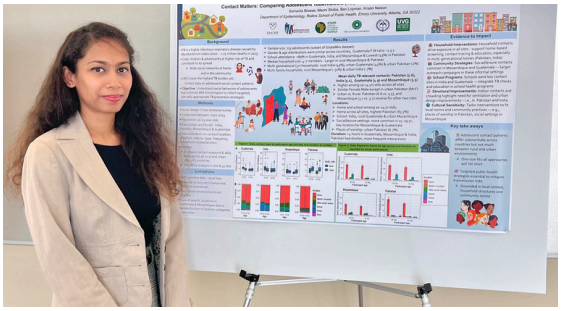
Farewell!

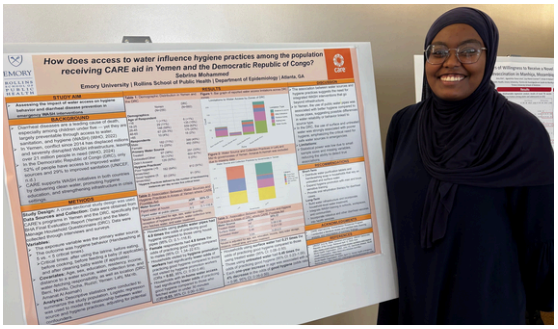
Congratulations to the 2025 TRAC MPH/MSPH graduates who delivered outstanding posters at the MPH students poster session on May 1: **Amy Kim, Neha Mokashi, Ruth Demissie, Samanta Biswas, Shamika Chavda, Sebrina Mohammed, Victoria Ontiveros, and Ruby Santana.** We thank you and **Kristin Wu, Sylvie Prepetit, and Carly Griffin** for your support of the TRAC and TB research at Emory, and wish you all the very best for your next chapters.

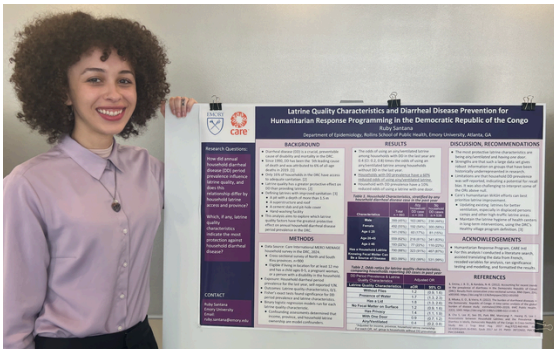




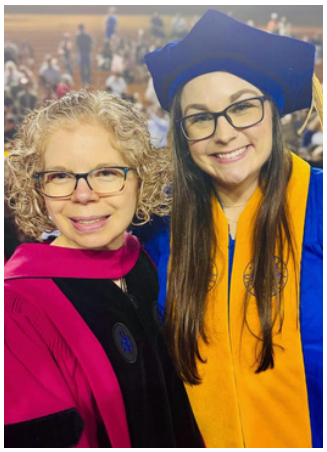








TRAColades



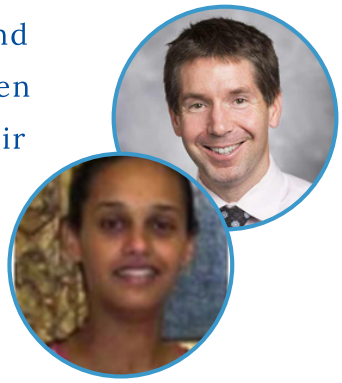
Congratulations to **Rachel Pearson, PhD**, who defended her dissertation titled **"*Impact of HIV infection and antiretroviral therapy on Mycobacterium tuberculosis-specific CD4 T Cell Responses*"** on April 30th and graduated from Emory with her PhD on May 9th! Dr. Pearson conducted her PhD research in the lab of **Dr. Cheryl Day** through the Graduate Division of Biological and Biomedical Sciences' Immunology and Molecular Pathogenesis Program.

Congratulations to **Daniel Flanagan, MPH**, an MD/PhD Candidate in the Epidemiology Department, for receiving the 12-month Dr. James A. Ferguson Emerging Infectious Diseases Research Initiatives for Student Enhancement (RISE) Fellowship, and Post-doctoral Fellowship with the Emory Translational Research to End the HIV Epidemic T32 Training Program. Daniel's primary mentor is **Dr. Neel Gandhi** and his PhD will focus on improving diagnosis and prevention of pediatric tuberculosis in HIV-endemic settings.

Congratulations to **Cheryl Day, PhD,** for receiving the **Rosalind Franklin Society Award** in Science in recognition of the best 2024 paper in AIDS Research and Human Retroviruses for her article titled **"*Active Tuberculosis Is Associated with Depletion of HIV-Specific CD4 and CD8 T Cells in People with HIV*"**. The study explored the impact of Mtb/HIV co-infection on the phenotype of HIV-specific T cell responses among a cohort of people with HIV (PWH) in Kenya. Study findings suggest that TB is associated with overall increased T cell activation and cytotoxicity and with depletion of HIV-specific CD4 and CD8 T cells, which may contribute to further impairment of T cell–mediated immune control of HIV replication in the setting of TB. Dr. Day also received an **Emory Center AIDS Research (CFAR) Opportunity Award** to conduct immune correlate studies for the AIDS Clinical Trials Group (ACTG)-sponsored multi-center phase 3 clinical trial **"*A Randomized, Placebo-Controlled, Double-Blinded Trial of the Safety and Efficacy of Tecovirimat for Treatment of Human Monkeypox Virus Disease.*"**

Publication Highlights

Kudos to **Danielle Giovenco, PhD, Sarita Shah, MD, MPH**, **Neel Gandhi, MD, Don Operario, PhD,** and **Kylie Ansorge, MPH** on their publication titled ***"New drugs are not enough: addressing social determinants as a critical component of drug-resistant TB care"***. Their article explores the importance of social determinants of health (SDoH) as it relates to research and interventions for drug-resistant TB (DR-TB). It highlights the successes and setbacks of HIV interventions that incorporated SDoH factors and discusses how this approach can be applied to DR-TB interventions.



Congratulations to **Jeffry Collins, MD, MSc, Liya Wassie, PhD,** and many TRAC investigators at Emory University, the Armauer Hansen Research Institute, Ethiopia and collaborating institutions on their publication titled ***"A plasma metabolic signature to diagnose pulmonary tuberculosis and monitor treatment response"***. The article was published in the Journal of Infectious Diseases and presents a metabolite signature that included the kynurenine/tryptophan ratio and retinol and showed excellent classification for TB disease and may advance TB diagnostics.

Kudos to **Kogieleum Naidoo, MBChB, PhD**, on her recent publication titled **"*BCG Revaccination for the Prevention of Mycobacterium tuberculosis Infection*".** This study was a phase 2b clinical trial evaluating the efficacy of BCG revaccination, compared with placebo, for the prevention of sustained QFT test conversion (primary end point) in QFT test–negative, human immunodeficiency virus (HIV)–negative adolescents. The study's key finding was that BCG revaccination in QFT–test negative, HIV-negative adolescents did not provide protection from sustained *M. tuberculosis* infection.

Kudos to **Russell Kempker, MD, Sara Auld, MD, Cheryl Day, PhD, Matthew Magee, PhD, Maia Kipiani, MD,** and co-authors on their recent publication, **"*High rates of post-tuberculosis lung disease among persons successfully treated for drug-susceptible and resistant tuberculosis*".** This prospective cohort study compares end of treatment prevalence of post-TB lung disease (PTLD) among participants with and without drug-resistant TB and evaluates the association between plasma cytokines and matrix metalloproteinases with lung damage. The study found that nearly three in four individuals with microbial cure status for TB disease had prevalent PTLD regardless of drug resistance status, and persistent cavitary disease at the end of treatment was associated with higher matrix metalloproteinase 8 and lower matrix metalloproteinase 2, interleukin-17A and interleukin-1ß.

Upcoming Events

TB WORKS IN PROGRESS SEMINAR
CUTTING THE FAT: INFECTION WITH MYCOBACTERIUM TUBERCULOSIS DEPLETES HOST LIPIDS

Friday May 23, 2025, 9 - 10 am
CNR Room 3001 and Zoom [Flyer]

Jefferey Collins, MD, MSC is an Associate Professor of Medicine in the Emory Division of Infectious Diseases and Co-Director of Emory/GA TRAC's Bioinformatics and Integrated Systems Biology core. His research focuses on using high-resolution metabolomics and lipidomics approaches to identify novel TB biomarkers and host-pathogen interactions across the spectrum of TB infection and disease.

Bulletin Board

UNOPS | JOBS Innovations Consultant

The Innovations Consultant (Roster) will play a crucial role in driving forward STBP's mission to end TB by 2030. **See job posting here.**

Special funding opportunities to support research impacted by federal funding cuts

ERC GRANTS FOR NON-EUROPEAN RESEARCHERS

European Research Council
Established by the European Commission

The European Research Council (ERC) is a funding organization for frontier research. It aims to stimulate scientific excellence in Europe by funding researchers of any nationality and age, and supporting their innovative ideas. Researchers from anywhere in the world can apply for ERC grants provided the research they undertake will be carried out in an EU Member State or Associated Country. Research projects funded by the ERC can last up to five years and can cover frontier research in any scientific domain, including social sciences, humanities and interdisciplinary studies. The grants may help both emerging research leaders ('ERC Starting Grants' and 'ERC Consolidator Grants') and already well-established and recognized scientists ('ERC Advanced Grants'). More Information can be found **here**.

MP3 INITIATIVE GRANTS FOR GRADUATE STUDENT SUPPORT

THE MP3 INITIATIVE
From Molecules and Pathogens to Populations and Pandemics

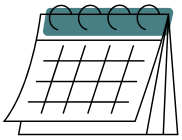
The MP3 initiative invites applications to support graduate students who do research on the study and control of infectious diseases across scales, and who are affected by recent funding cuts. The goal of the MP3 Initiative is to facilitate and grow basic and applied infectious disease research across scales at Emory University, from molecules and pathogens within hosts to populations and pandemics. The Proposal deadline is **June 1, 2025**, by midnight ET. For more information, including the grant submission portal **here.**

EMORY SOM P4 FAST TRACK AWARDS

Emory SOM in partnership with Winship, CHOA, Grady, and CFAR, invites applications for the P4 (Pivot, Proposal, and Planning Program) Fast Track Awards—a new funding mechanism supporting SOM faculty whose grants were recently terminated due to federal funding shifts. Awards of up to $100,000 (direct costs) are available for one year, with potential for renewal. Eligible Principal Investigators must propose a novel research pivot aligned with NIH priorities and have ≤$200K in other direct funding. **Learn More.**

Recent NIH Notices:

- **Updated NIH Policy on Foreign Subawards**, NOT-OD-25-104, May 1, 2025
- **Updated NIH Processes for No-Cost Extensions**, NOT-OD-25-110, May 7, 2025



Virtual Meeting on July 8 - 9, 2025

The 16th edition of the **International Workshop on Clinical Pharmacology of Tuberculosis Drugs** will take place **8-9 July 2025** as a virtual meeting. This abstract-driven workshop has been the leading annual meeting in the TB pharmacology field since 2008. If you work in the field of TB, you are invited to join. This includes preclinical and clinical pharmacology researchers from academia and industry; medical doctors, pharmacists and pharmacologists involved in clinical management of TB patients; laboratorians, nurses, PhD students; and representatives from regulatory or non-governmental organizations active in the TB-field.

The program consists of oral presentations that will be put in perspective, with a translation to clinical care by selected experts at the end of each workshop session. In addition, there will be e-poster abstract presentations. The workshop is informal in setting and is meant to be interactive. **Abstract should be submitted by April 30, 2025.** More information can be found **here.**

April Publications

Abdelgawad N, **Wasserman S**, Gausi K, Davis A, Stek C, Wiesner L, **Meintjes G**, Wilkinson RJ, Denti P. *Population Pharmacokinetics of Rifampicin in Plasma and Cerebrospinal Fluid in Adults With Tuberculosis Meningitis.* J Infect Dis. 2025. DOI: 10.1093/infdis/jiaf178.

Asare K, Lewis L, van der Molen J, Sookrajh Y, Khubone T, Ngwenya T, Mkhize NS, Lessells RJ, **Naidoo K**, Sosibo P, Bottomley C, Garrett N, Dorward J. *Impact of increasing CD4 count threshold eligibility for antiretroviral therapy initiation on advanced HIV disease and tuberculosis prevalence and incidence in South Africa: an interrupted time series analysis.* BMJ Glob Health. 2025;10(4). DOI: 10.1136/bmjgh-2024-016631.

Barsosio HC, Tangara B, Ongalo J, Achieng M, Marlais T, McCarthy KD, Otieno K, Wanjiku M, Matthewman J, Allen D, Hannan L, **Date A**, Lesosky M, Kariuki S, Samuels AM, Drakeley C, Ter Kuile FO, Samandari T. *Self-reported COVID-19 severity among persons with tuberculosis infection in western Kenya, 2021.* PLOS Glob Public Health. 2025;5(4):e0004372. DOI: 10.1371/journal.pgph.0004372.

Day CL, Njuguna IN, **Cranmer LM**, Whatney WE, Pearson RA, Lindestam Arlehamn CS, Sette A, LaCourse SM, Escudero JN, Sasser LE, Mugo C, Okinyi HM, Maleche-Obimbo E, Wamalwa DC, John-Stewart GC. *Patterns and Cofactors of Polyfunctional Mycobacteria-Specific T-Cell Response Restoration Following 6-Month Antiretroviral Treatment in Children With HIV*. J Infect Dis. 2025;231(4):957-66. DOI: 10.1093/infdis/jiae630.

Li Y, Marks SM, Beeler Asay GR, **Winston CA**, Pepin D, McClure S, Swartwood NA, Cohen T, Horsburgh CR, Jr., Salomon JA, Menzies NA. *Effectiveness and Cost-Effectiveness of Expanded Targeted Testing and Treatment of Latent Tuberculosis Infection Among the Medicare Population in 2022.* Ann Intern Med. 2025;178(4):479-89. DOI: 10.7326/annals-24-00870.

Naidoo A, Waalewijn H, **Naidoo K**, Letsoalo M, Cromhout G, Sewnarain L, Mosia NR, Osuala EC, Wiesner L, Wasmann RE, Denti P, Dooley KE, Archary M. *Pharmacokinetics and safety of dolutegravir in children receiving rifampicin tuberculosis treatment in South Africa (ORCHID): a prospective cohort study.* Lancet HIV. 2025;12(4):e273-e82. DOI: 10.1016/s2352-3018(24)00312-6.

Naidoo K, *Perumal R. First data of a quabodepistat containing novel regimen for drug-susceptible tuberculosis.* Lancet Infect Dis. 2025;25(4):366-7. DOI: 10.1016/s1473-3099(24)00653-4.

Naidoo K, Zuma NY, Moodley M, Made F, Perumal R, Gengiah S, Ngozo J, Padayatchi N, Nunn A, Karim SA. *High mortality among patients with tuberculosis accessing primary care facilities: secondary analysis from an open-label cluster-randomised trial.* EClinicalMedicine. 2025;82:103151. DOI: 10.1016/j.eclinm.2025.103151.

Sawe S, Tsirizani L, Court R, Gausi K, Poswa A, Badat T, Wiesner L, **Loveday M, Maartens G**, Conradie F, Denti P. *The effect of pregnancy on the population pharmacokinetics of levofloxacin in South Africans with rifampicin-resistant tuberculosis.* Antimicrob Agents Chemother. 2025:e0162624. DOI: 10.1128/aac.01626-24.

Stead D, **Wasserman S**, Steenkamp E, Parrish A, Barr D, **Meintjes G**. *Comparative Performance of Urine Lipoarabinomannan and Urine Xpert MTB/RIF Ultra for Diagnosing Tuberculosis in Adult Inpatients With Human Immunodeficiency Virus in East London, South Africa.* Clin Infect Dis. 2025. DOI: 10.1093/cid/ciaf080.

Swartwood NA, **Haddad MB**, Marks SM, Beeler Asay GR, Horsburgh CR, Jr., Cohen T, Menzies NA. *Health Impact and Cost-Effectiveness of Testing and Treatment of Mycobacterium Tuberculosis Infection Among Asian and Hispanic Persons With Diagnosed Diabetes in the United States.* Value Health. 2025. DOI: 10.1016/j.jval.2025.03.009.

Tilahun M, Atnafu A, Gebresilase TT, Abebe M, Alemu M, Neway S, Letta T, Bezabeh A, Assefa T, Melaku K, Alemayehu DH, Moga S, Ayele A, Fetu M, Adnew B, Mulu A, **Wassie L, Bobosha K**. *Genotypic drug resistance and transmission clusters of Mycobacterium tuberculosis isolates among Ethiopian returnees from Saudi Arabia.* PLoS One. 2025;20(4):e0318743. DOI: 10.1371/journal.pone.0318743.

Vongjarudech T, Dosne AG, Remmerie B, Dooley KE, **Brust JCM, Maartens G, Meintjes G,** Karlsson MO, Svensson EM. *Development and validation of a time-varying correction factor for QT interval assessment in drug-resistant tuberculosis patients*. Int J Antimicrob Agents. 2025;65(4):107460. DOI: 10.1016/j.ijantimicag.2025.107460.

Have items to include in a future newsletter? Email: lisa.sharling@emory.edu