RePORT International Newsletter

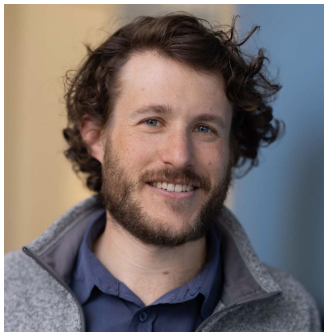
June 2025

In This Issue

NEW VOICES IN TB RESEARCH

Meet the Selected Abstract Presenters

Five exceptional junior investigators from the RePORT networks were selected to present their research at this year's annual meeting, showcasing innovative approaches to tuberculosis prevention, diagnosis, and treatment. From machine learning applications to biomarker development, the next generation of TB researchers is working to translate cutting-edge science into real-world solutions for high-burden communities. Let's read more about some of them.



Simon Mendelsohn - RePORT South Africa

Senior Researcher and Physician-Scientist, South African Tuberculosis Vaccine Initiative (SATVI), University of Cape Town

Simon Mendelsohn - RePORT South Africa Senior Researcher and Physician-Scientist, South African Tuberculosis Vaccine Initiative (SATVI), University of Cape TownDr. Simon Mendelsohn, physician-scientist and Senior Researcher at SATVI, brings a deep commitment to advancing Tuberculosis (TB) care with cutting-edge clinical research and real-world public health experience. Before joining SATVI, Dr. Mendelsohn managed the care of persons with TB and HIV in South Africa's public health system and led HIV/TB programming in Malawian prisons with Médecins Sans Frontières. Such experiences fueled his mission to make TB prevention and treatment strategies more effective and scalable in low- and middle-income countries.

Within his role as a clinical investigator, Dr. Mendelsohn has contributed to more than 30 trials of TB vaccines, therapeutics, and diagnostics. His current work focuses on the development and validation of non-sputum-based diagnostic tools and biomarker-

guided interventions to detect asymptomatic or persistent TB infections. With the use of blood-based transcriptomic signatures and molecular technologies, he aims to identify individuals at high risk and deliver targeted interventions faster and more cost-effectively.

Looking forward, Dr. Mendelsohn is focused on translating TB research into policy. Through opportunities with RICC, he hopes to refine his skills in complex grant writing, cross-sector communication, and engaging policymakers, ensuring that innovations in TB research reach the communities that need them most.

Denis Awany - RePORT South Africa

Senior Data Scientist, South African Tuberculosis Vaccine Initiative (SATVI), University of Cape Town

Since joining SATVI in 2021, Dr. Awany has led biomathematical approaches to TB research, leveraging machine learning to bridge the gap between human and animal data. With a background in physics and mathematical sciences, his work focuses on the identification of biomarkers and gene expression patterns relevant to vaccine development and human TB pathology.

Dr. Awany's current projects include a collaboration in which the focus is on animal organisms to bridge data with humans to understand if it is possible to get relevant data with a machine learning framework, and looking at gene expression to apply to vaccine studies, as well as RNA messenger sequencing research for biomarker development. Dr. Awany underscores the importance of adapting to fast-evolving research technologies and prioritizing mentorship. "It is critical to find mentors who align with your goals, and sometimes that means more than one," he advises young researchers starting in the field. Furthermore, he discusses the role AI plays in the ever-evolving field of TB research and notes how it can be a useful tool when applied to areas that may not be apparent for research initially.

While collaboration has been key to his progress, he also notes the digital divide that limits some institutions' access to high-performing computing and data tools. Denis explains how funding is important to allow for valuable research and data collection, and how mentorship and training or workshops for smaller institutions through RePORT International can be beneficial. His vision includes extending training and support to under-resourced researchers, ensuring that TB research grows more inclusive and globally connected.

Evans Muchiri - RePORT South Africa

Analytic Specialist, South African Tuberculosis Vaccine Initiative (SATVI), University of Cape Town

Dr. Muchiri brings a sharp eye for data quality and a background in medical statistics to his role as an analytics specialist. His focus spans TB vaccine dosing, treatment outcomes, and epidemiological trends, and research on what factors can be predictive for TB, especially within the intersection of HIV and TB. His previous HIV modeling work has supported national strategies in South Africa and across eight African countries.

As TB research embraces new technologies, Dr. Muchiri has seen a shift from relying

solely on physicians to interpreting imaging, to possibly having machines primarily do the same work of reading imagery like chest x-rays. However, he also notes that such advancing technologies will have benefits too, like having the ability to summarize large quantities of literature for better understanding and efficiency. He stresses the value of exposure across disciplines and encourages young investigators to seek feedback and mentorship. “Feedback on a manuscript, for example, can open your eyes to things you hadn’t considered before and can be informative,” he says.

Dr. Muchiri discusses the unique and beneficial angle RePORT international has with various sites and locations, which allows researchers to connect from many places to network, for instance, at conferences. Through the RICC network, conferences, and training workshops, Evans sees a growing opportunity to foster the next generation of TB researchers while staying at the forefront of data-driven public health innovation.

Claire Vania - RePORT India, Johns Hopkins

Research Data Scientist, Center of Infectious Diseases, India

Ms. Vania combines cutting-edge data science with global health priorities, focusing her efforts on tuberculosis (TB) research through advanced modeling and machine learning. As a research data scientist, she played a pivotal role in the development and optimization of an app that analyzes TB medication toxicity and efficacy, incorporating clinician feedback and real-world data.

Ms. Vania is especially driven by the potential of artificial intelligence to ease the burden of TB in high-incidence regions like India and Brazil. With guidance and direction from strong mentors, she found her niche within the broad field of TB research. “There is still a lot of stigma and under-prioritization surrounding TB,” she notes, “but seeing the burden firsthand has only deepened my commitment.”

Ms. Vania emphasizes the importance of local perspectives and multidisciplinary conversations, and she envisions a future where AI further empowers counties to make data-driven public health decisions. She encourages young researchers to understand where passion stems from when working in TB research and explains that although it is a taboo topic in many locations, the work is a high priority, especially when considering the burden such diseases have.

Article by Haya Siddiqui
Rutgers University

THE AI REVOLUTION IN TUBERCULOSIS RESEARCH

What Global Researchers are Thinking

A recent survey of RePORT International staff and investigators reveals how artificial intelligence (AI) is transforming tuberculosis research—and what researchers are worried about

Tuberculosis remains one of the world's deadliest infectious diseases, claiming over a million lives annually. But could artificial intelligence be the game-changer researchers have been waiting for? A new survey from the RePORT International Coordinating

Center offers insights into how AI is already reshaping the fight against TB.

The Current State of AI Adoption
A total of 65 individuals responded, representing roles such as investigators (41%), research coordinators/managers (23%), and others, including faculty and postdoctoral scholars. Over a third had 15 or more years of experience. The top areas of scientific interest included epidemiology (53%), diagnostics (46%), and treatment (44%). What they reported might surprise you: AI isn't just coming to TB research, it's already here. The numbers tell a compelling story. More than 80% of researchers are using ChatGPT for text generation, while nearly half rely on Grammarly to polish their writing. But it's not just about writing — over one-third of researchers are utilizing machine learning (ML) models, with logistic regression and random forest algorithms leading the charge. On the contrary, many people do not use image generation tools, and transcription tools (e.g. Zoom, Otter.ai) use is moderate.

Regarding impact, 38% of respondents indicated a moderate impact of AI/ML on their work, 19% significant, 10% transformative, and 12% no impact. There is a clear divide between early adopters and those still on the sidelines. While some researchers report transformative impacts on their work, others haven't yet felt any change at all.

The Promise: Why Researchers Are Excited
The benefits are real and immediate. Non-native English speakers, particularly, praise AI's ability to clarify their writing and help them communicate complex research findings. Researchers are saving precious hours on coding and data analysis—time they can redirect toward actual discovery.

Grant writing and report structuring are areas of the highest interest and use. AI tools help researchers organize their thoughts, create compelling narratives, and meet tight deadlines that could make the difference between funded and unfunded research. The potential extends beyond individual productivity. Researchers envision AI-powered mobile tools that could revolutionize care for people undergoing treatment, helping monitor treatment adherence and supporting clinical decision-making in resource-limited settings where TB burden is high.

The Concerns
This AI revolution isn't without its shadows. Data privacy tops the worry list and for good reason. TB research often involves sensitive patient information, and researchers are right to question whether AI platforms adequately protect this data. Additionally, AI tools sometimes generate convincing but false information. In a field where accuracy can mean the difference between life and death, this concern resonates deeply.

Many researchers lack proper training in AI tools, creating a potential divide between the AI-enabled and those left behind. There's also growing concern about environmental impact—training large AI models requires enormous computational resources.

The Path Forward: Building Responsible AI Integration
The survey reveals a research community that's cautiously optimistic but hungry for guidance. Researchers are calling for:

- Multilingual AI training programs that serve the global TB research community
- Shared datasets that could accelerate model development while maintaining privacy
- Ethics advisory groups to navigate the complex moral landscape of AI in health

research
- Mobile-first tools designed for real-world clinical settings

What This Means for the Future of TB Research
The survey paints a picture of a field in transition. We are witnessing the early stages of what could be a vital transformation in how TB research is conducted. The researchers who are embracing these tools thoughtfully—while maintaining scientific rigor—may have significant advantages in advancing our understanding of this ancient disease.

But success is not guaranteed. The TB research community must navigate questions of equity, ethics, and effectiveness. The goal isn't just to adopt AI tools, but to use them in ways that accelerate progress toward TB elimination while maintaining the highest standards of scientific integrity.

AI is already changing TB research, whether we're ready or not. The question isn't whether this transformation will happen, it's whether we'll guide it wisely.

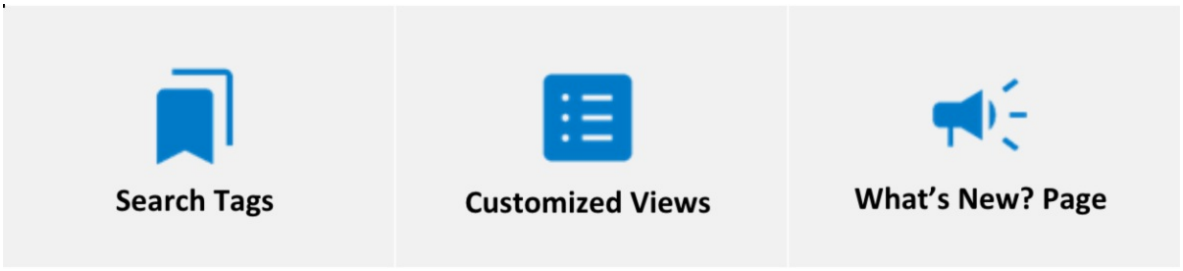
Article by Sanjana Gandikota, Student, Rutgers School of Public Health & Daphne Martin, Program Manager, RePORT International Coordinating Center

RePORT INTERNATIONAL'S VLR EVOLVES

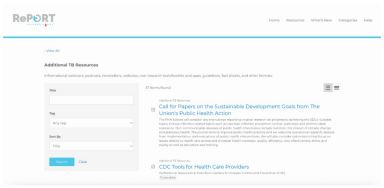
Virtual Learning Room (VLR) New Design, New Features, Same Mission

The VLR is a space to gather and share a variety of resources relevant to the RePORT International consortium. On behalf of the RePORT International Coordinating Center (RICC), Frontier Science released a new version of the VLR, now available via the **RePORT International Website** Learning link, with an exciting new look and numerous enhancements to give the learner a more positive experience.

New Features



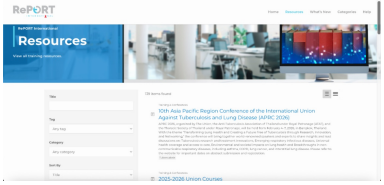
Search Tags



The updated learning room boasts improved search capability, including simplified search tags and the ability to sort by the date when resources were added. Categories have been streamlined for simpler organization and grouping of resources.

Customized Views

The simplified resource list view now includes a toggle between a collapsed and expanded view, allowing the user more control of how they would like to view resources.



What's New?

A “What's New” page has been added, highlighting the 10 most recently added or updated resources.

A Peek Behind the Scenes

Program support takes many forms, and much of it takes place behind the scenes. The TB RICC Coordinating Center staff work tirelessly to provide guidance, resources, and training for the RePORT International consortium and partners.In these times of change, the RePORT International VLR has become even more important than ever in keeping our global network connected, informed, and engaged.

Behind the scenes, a dedicated team from Johns Hopkins, Frontier Science, and Rutgers ensures that the VLR remains a vibrant hub for knowledge and collaboration. Aye Hnin Moe and Mary Talalay from Johns Hopkins lead these efforts and, on a regular basis, collect, curate, and update the VLR content, regularly reaching out to our international network of collaborators for fresh ideas, materials, and expertise. Alex Benns and Sue Siminski from the Frontier team manage the site itself, posting and tagging resources while also facilitating with its design team to provide a friendly user experience that makes the site easy to navigate. Rajita Bhavaraju, David Hom, and Daphne Martin lead the Rutgers team to keep the community connected through regular updates, encouraging users to explore new content and share their own insights.

Now more than ever, the VLR serves as a vital bridge across countries, leveraging this modern platform to support research, collaboration, and shared learning in the global fight against TB.

Learn More

We invite you to check it out! Visit the RePORT International VLR to see the latest resources and materials RICC has made available from a variety of categories. Find the latest in funding opportunities, research tools, trainings, and conferences, and much more. And we encourage you to add any resources as well.

The RePORT Virtual Learning Room is accessible from the main RePORT International website's **Learning page**.

ANNOUNCEMENTS

New Video on our YouTube Channel

Convergence of Artificial Intelligence and the Life Sciences by Nancy Connell, PhD

This Rutgers New Jersey Medical School, Department of Medicine Grand Rounds presentation covered some of the accomplishments in the life sciences using large language models and machine learning. It also covered some areas of concern that require robust policies to address them. Dr. Connell is Professor Emerita in the Rutgers New Jersey Medical School in the Division of Infectious Diseases, and focuses on technology, health, and policy. She is a microbiologist by training with a long history in the field of tuberculosis.

Global TB Research Forum | July 17, 10:30 AM ET

"Making Scientific Publications More Accessible, Along with the ChatGPT Application"

Speaker: Dr. Mariana Araújo-Pereira, Multinational Organization Network Sponsoring Translational and Epidemiological Research (MONSTER) Initiative

"Results of the RICC Survey on AI: Are we ready for the future?"

Speaker: Sanjana Gandikota Masters of Global Public Health Student, Rutgers School of Public Health

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Notice of Updated Effective Date for the 2024 NIH Public Access Policy

NIH's default position is maximum transparency regarding research and research findings. This Notice updates the Effective Date of the 2024 NIH Public Access Policy,NOT-OD-25-047,to July 1, 2025. The Policy will continue to apply to any Author Accepted Manuscript accepted for publication in a journal that is the result of funding by NIH in whole or in part through a grant or cooperative agreement, including training grants, a contract, an Other Transaction, NIH intramural research, or the official work of an NIH employee. Author Accepted Manuscripts meeting this qualification and with acceptance dates on or after July 1, 2025, are subject to the Policy.

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Public Call for Data

To inform WHO policy updates on new TB diagnostic samples, tests, and testing strategies, WHO has issued a public call for data on near point-of-care nucleic acid amplification technologies (NPOC-NAATs) for respiratory samples and tongue swabs and low-complexity automated nucleic acid amplification tests (LC-aNAATs) on tongue swabs and pooled respiratory samples.

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Please remember to follow and subscribe. Don't forget to invite others, both inside and outside of RePORT International to follow our updates!

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