

## RePORT International Newsletter

January, 2025

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### HIGHLIGHTING RUTGERS UNIVERSITY

#### Advancing Global TB Research Through Leadership

*Rutgers University's Contributions to RePORT International*



Rutgers University (RU) has a distinguished history in tuberculosis (TB) research dating back to the 1943 discovery of streptomycin and the development of the GeneXpert platform as a TB diagnostic in 2010. Currently, Rutgers investigators lead several NIH-funded global TB research initiatives in addition to RePORT International, specifically FEND-TB and the TB Research Unit (TBRU).

#### Foundation of Excellence

Rutgers University, in partnership with Boston University, established a collaboration with the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER) and competed successfully to become a site in RePORT India (2013). Dr. Jerry Ellner was first US Chair of that network. Under the guidance of Drs. Jerry Ellner, Natasha Hochberg, Padmini Salgame, Pranay Sinha, and Robert Horsburgh, Rutgers and Boston University began a focused study on TB

comorbidities and biomarker discovery that has evolved into a comprehensive research program.

## Strategic Institutional Contributions

Rutgers has several centers and teams which work together to support TB research. The Data and Operations Management Center (DOMC) headed by Mr. David Hom assisted RePORT India to develop the Data Hub at JIPMER. The data harmonization initiative of RePORT International led by Mr. Hom and Dr. Stephany Duda from Vanderbilt has enabled researchers to address sophisticated epidemiological questions that extend beyond the capabilities of individual research sites. This systematic approach to data management is a cornerstone of RePORT International. The Administrative Core team ensures seamless execution of international programs through specialized teams handling regulatory compliance, fiscal administration, and operational logistics. The Rutgers Center for Data Science, under the direction of Dr. Evan Johnson, has provided novel computational support to RePORT sites, through the analysis of genomics data, development of novel biomarkers, and through trainings and courses in computational methods and data analysis.



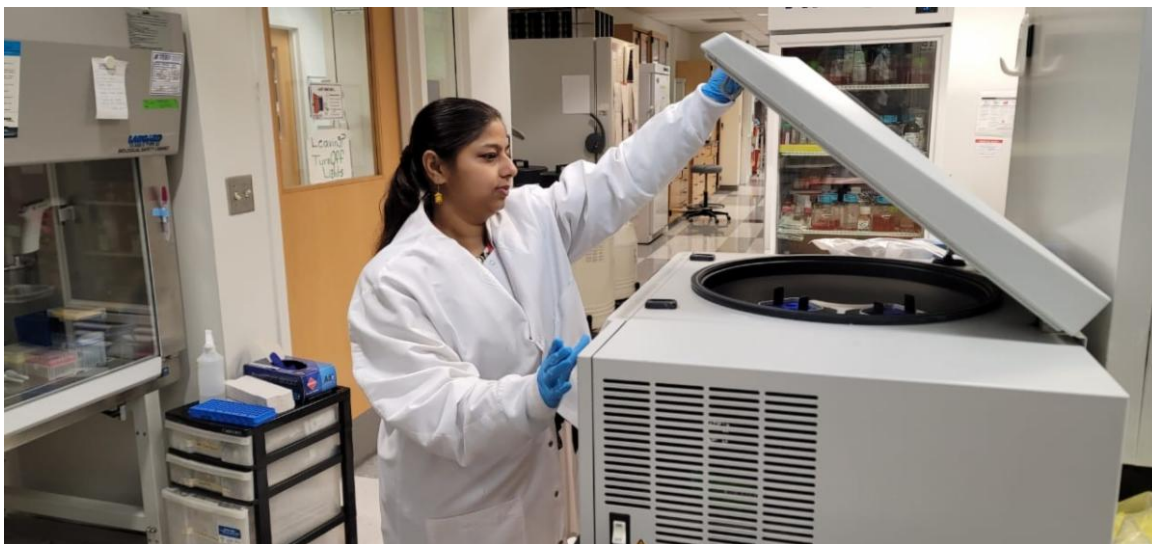
## Behind the Scenes Excellence: Team Game

Beginning in 2023, Rutgers became the hub of the RePORT International Coordinating Center (RICC). While having only two full-time RICC staff, our dedicated team, supported in part through institutional funds, considers RePORT International a priority and strives to deliver consistent and exceptional results. Dr. Rajita Bhavaraju, the Director of Global Operations notes how the team brings deep expertise to RePORT International's operations, skillfully managing complex tasks and problem-solving with a level of precision that often goes unnoticed. Their commitment to excellence ensures seamless operations despite our lean structure. The program emphasizes professional development and collaborative excellence creating an environment where complex research objectives are systematically achieved through coordinated team efforts and strategic planning. This provides a perfect atmosphere not just for staff but also for junior researchers to learn and grow.

Another unique aspect of the Rutgers team is the long-standing commitment of the leadership group to excellence in TB research. Dr. Ellner and Mr. Hom have worked together for over 3 decades, and with Dr. Salgame, Dr. Soyeon Kim (Frontier) and Ms. Francesca Escaleira for 1-2 decades! At Rutgers we have true synergism in our interactions as well as mutual trust.

In addition to RePORT India, the Rutgers group has collaborated with (now) RePORT

Uganda for over 30 years and has multiple NIH-funded projects that have been leveraged in the addition of Uganda to the consortium.



The Rutgers Team:

- **Bioinformatics collaboration and support:** Evan Johnson provides analytical support, collaboration, and training in data science methods.
- **Data Management:** David Hom and Priyal Matreja ensure data integrity and analysis.
- **Fiscal and Administration:** Audrey Mioli, Francesca Escaleira, and Lorraine Luciano-McKeon lead grant administration, budget development, and problem-solving.
- **Operations and Project Coordination:** Daphne Martin, Emily Douglass, Rajita Bhavaraju, and Joanna Radman, coordinate the RICC programs, logistics, meetings, and communications.
- **Regulatory Management:** Ann Tufariello manages complex legal and institutional requirements.
- **Scientific Leadership:** Drs. Ellner, Salgame, and Verma provide critical input, including training at international sites.

### Collaboration Across RU Centers

RU's Emerging Pathogens Center, Public Health Research Institute, DOMC, and the Center for Data Science collaborate effectively to support RePORT International. Shared vision and strong communication have led to advanced problem-solving and grant awards, highlighting the synergy between RU teams.

### Future Directions

Rutgers University continues to advance its position as a leader in global TB research through RePORT International. The success of Rutgers University's involvement in RePORT International demonstrates how institutional expertise, combined with strategic management and professional execution, can accelerate progress in global health research initiatives and collaboration.



**What do you consider the highlight of your being part of the Rutgers Team?**

**Ann Tufariello:** *The best part of working with the TB RICC team is the people. I enjoy collaborating with all the team members at Rutgers as well as working with our domestic and international partners.*

**Audrey Mioli:** *Our team fosters a collaborative environment where we can share ideas, learn from each other's strengths, and collectively work towards achieving a common goal, creating a sense of camaraderie and shared success.*

**Daphne Martin:** *Being part of this eclectic team has been remarkable. Despite working across multiple time zones, we collaborate seamlessly, with each member bringing unique strengths to the table. The organic mentorship and the culture of mutual support within our team creates growth while consistently delivering results.*

**David Hom:** *The Rutgers team is very focused on finding solutions, and the team from Dr. Ellner's leadership to implementation of fiscal oversight, regulatory, quality assurance, and protocol conduct, works well together, and always with a smile and a good attitude.*

**Emily Douglass:** *Having been involved with of the first generation of RePORT protocols in South Africa, I'm excited to be working with the RICC team and to see the incredible growth and progress the consortium has achieved. Being exposed to and having a hand in the development and implementation of innovative and impactful programs like RICC is one of the truly unique opportunities that draws me to our group and my role at Rutgers.*

**Evan Johnson:** *Working with Drs. Ellner and Salgame and the whole support team makes our team's science exciting and engaging. I am looking forward to continued collaboration and the discovery of new and important discoveries to cure the world of*

TB.

**Francesca Escaleira:** Diversity that arises with working with international colleagues.

**Jerry Ellner:** The "can-do" upbeat atmosphere of all involved. The task of leading RICC 2.0 and 3.0 is complex and demanding and requires total commitment of individuals and the team. Whereas the success of RICC 3.0 and RePORT International is not a given, I feel that the Rutgers team provides has the expertise and the passion to move us forward.

**Joanna Radman:** Our sense of teamwork. The RICC team at Rutgers is a wonderful group of professionals with complimentary skillsets. It is a fun group to problem solve with, and to socialize with.

**Lorraine Luciano-McKeon:** Ours is a dynamic team that doesn't shy away from challenges. If we face obstacles, we work together to puzzle them out. It's a supportive environment that welcomes new ideas and approaches.

**Padmini Salgame:** RICC 3.0 under the leadership of Dr. Ellner has a strong and compelling vision of achieving complex and sophisticated research goals. I think this is a key component to our teams' overall success. In this culture-work becomes fun---yes fun!

**Priyal Matreja:** The leadership and team members are always open to bringing in new tools and technology to help with various aspects of research. This provides a perfect environment for junior researchers to learn and grow. Dr. Ellner's exemplar leadership is inspiring and keeps the team motivated to progress in the world of tuberculosis science.

**Rajita Bhavaraju:** I enjoy the passion for TB research exhibited by my colleagues. I have worked in the TB field for 27 years, and in my position which I have only held for a year, I still feel inspired about the mission of TB elimination. This position has allowed me to grow in working with others globally and learn new skills.

**Sheetal Verma:** Research collaboration and effective communication are essential components of a successful scientific setting, particularly at RICC where working with global partners spread over multiple time zones is all in a day's work. In this team we believe in shared knowledge and leveraging each other's strengths to accelerate the consortium's growth. Our motto - teamwork makes the dream work!

Daphne Martin  
Program Manager



## FUTURE LEADERS PROGRAM

### Making Way for the Next Generation of TB Research Trailblazers

Taking charge of a TB research team, site, or lab not only requires scientific skills, but skills to direct and supervise effectively and develop one's own research portfolio. RePORT International Coordinating Center's (RICC) Future Leaders Program (FLP) is intended to develop the capacity of investigators within RePORT International institutions to assume leadership positions within RePORT country networks and RePORT International as a whole. The program aims to provide some protected time for research development, hands-on participation in RePORT International activities, and development of leadership skills. Through a highly selective process, three mid-level investigators were selected. We are pleased to introduce the three investigators who have been selected: Mariana Araujo-Pereira, PhD, MBA (Brazil), Kamakshi Prudhula Devalraju, PhD (India), and John Carlo Malabad, MD, PhD (Philippines).



#### Mariana Araujo-Pereira

Mariana is a PhD-trained bioinformatician specializing in systems immunology and also an Associate Professor of Precision Medicine, School of Medicine, Medicina Zarns, Salvador, Brazil. Her research is focused on uncovering the mechanisms driving TB pathogenesis and treatment outcomes. As an investigator within the RePORT-Brazil initiative, she concentrates on studying soluble inflammatory biomarkers to better understand the immunological

and genetic factors that contribute to therapeutic failure in TB.

In terms of greater research interests, Mariana reports, that “my goal is to advance TB research by utilizing cutting-edge multi-omics approaches and systems biology/immunology tools. I aim to enhance our understanding of the pathophysiology of TB infection, particularly from the perspective of the immune system. Additionally, I want to unravel the various endotypes of TB infection and its progression while

identifying predictive biomarkers associated with TB advancement.” She also wants to develop a multidisciplinary program focused on identifying predictive biomarkers and developing personalized medicine tools to improve clinical care and contribute to the global fight against TB and other infections.

Mariana has had extensive leadership experience as a principal investigator, mentor, and academician. She hopes to gain better global business communication skills, foster a positive respectful, and collaborative team environment, and enhance her mentoring capabilities. In other words, as well-stated by Mariana, that she wants to “Strengthen her skills in leading multidisciplinary teams, inspire partnerships, and address conflicts constructively to maintain harmony and productivity.”

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### **Kamakshi Prudhula Devalraju**

Prudhula has a PhD in biotechnology and has been working on the immunology of TB and HIV. She is a Project Scientist in the Immunology and Molecular Biology Department at Bhagwan Mahavir Medical Research Centre in Hyderabad, India. Prudhula specializes in the identification of biomarkers for TB progression in high-risk individuals like household contacts, people living with HIV patients, and children in cohort studies in India.

Prudhula’s main research interest is understanding the dynamics of immune cells and the underlying mechanisms involved in an individual’s susceptibility to TB in human household contact cohorts. She states, “In one of our cohort studies we established that adolescent/young adults with a certain hormone deficiency were at risk of developing TB. We also found that certain metabolites enhance innate resistance to *M. tuberculosis* infection. Identifying these biomarkers to predict activation of TB in high risk populations would ensure targeted prophylaxis to decrease TB burden globally.” During her doctoral work, Prudhula has developed an in-vitro assay, in-house IGRA making use of *M. tuberculosis* antigens to detect LTBI among HIV patients and healthy controls. Using this assay, she observed that certain cytokines, chemokines, and metabolites render individuals susceptible to TB and published the results in four first author manuscripts.

In additional to her research, Prudhula hopes “to develop the ability to form and address research ideas independently, lead while being a team player, understand the current trends in TB research globally, and to enhance networking, funding opportunity decision-making, and grant writing skills.” She also wants to boost her data analysis and interpretation experience.

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### **John Carlo Malabad**

John Carlo (also known as JC) was enthusiastic about TB from his earliest training days. “When I was still a student under the MD-PhD program, I got exposed to the real-life burden of TB because many of our patients had TB either as a primary diagnosis or a concomitant disease. That’s where my interest in TB really started. I



decided to work on TB research for my dissertation, focusing on the molecular epidemiology of *Mycobacterium tuberculosis* from TB/HIV co-infected patients in the Philippines."

Through RePORT International, JC's research interests expanded to TB biomarker discovery and validation for diagnostics development. In 2024, he happened to be part of the pioneer batch of young researchers who were accepted to the RePORT International Junior Investigators Laboratory Training Program, where he learned and developed skills on

microfluidic gene expression, Luminex and NanoString platforms, and importantly, bioinformatics skills needed for analysis of data from such platforms.

"Being involved in RePORT International helps me broaden my perspective in TB research. I aim to contribute, in advancing TB science in the Philippines by taking an active part in local and cross-consortium collaborative research initiatives, such as biomarker validation, understanding host-pathogen interactions through multi-omics approach, among others. It is also my dream and goal to have and establish a separate laboratory space for RePORT Philippines that is dedicated to TB research and development initiatives," mentioned JC. Within the FLP, he hopes to develop further his leadership skills, particularly on leadership communication, collaboration, research management and grant writing.

We are excited to have these Future Leaders on board and learn much from their experiences!

## LAUNCHING RADAR

**RePORT INTERNATIONAL** Home Dashboard

# RADAR

**RePORT International Data and Specimen Availability Dashboard**

**RePORT International**  
Learn more about participating countries and the data that we collect on our main website.  
[More Info](#)  
VISIT OUR MAIN WEBSITE

**RADAR Dashboard**  
See summaries of participant demographics, treatment and exposure outcomes, and specimens we may have using our interactive dashboard.  
[More Info](#)  
OPEN DASHBOARD

**Collaborate With Us**  
Download, complete, and submit the template below to collaborate with us.  
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DOWNLOAD TEMPLATE

**374,162**  
Total Specimens

**3,438**  
Unique Participants with Active TB

**4,346**  
Unique Participants in Close Contact with Active TB Patients

## RePORT International Data and Specimen Availability Dashboard

As we all waited with excitement, the Frontier Science and RICC teams launched the highly anticipated **RADAR**, an interactive dashboard. Investigators from both within



RePORT and the broader scientific community can leverage RADAR's aggregate data to generate summaries of participant demographics, treatment and exposure outcomes, and available specimens within the RePORT International consortium's repository.

RADAR is a result of extensive collaborations among multiple working groups and individuals, including RICC, the Data Harmonization Working Group, RePORT leadership, clinical sites, country data center teams, and biorepository teams. We thank the teams who contributed data and validated it once added to the draft RADAR system.

Data included in the RADAR dashboard will be updated every 6 months. RADAR not only provides a real-time snapshot of RePORT's available data but also serves as a gateway to foster collaboration by enabling investigators to explore the dashboard and request data. With its focus on data sharing, RADAR promotes transparency, engages users, and strengthens their understanding on how RePORT's consortium data can support impactful research proposals.

[VIEW SITE](#)

## PUBLICATIONS

### **Predictive Markers of Incident Tuberculosis in Close Contacts in Brazil and India.**

Nogueira BMF, Rangel F, Andrade AMS, Daniel EA, Figueiredo MC, Staats C, Rolla VC, Kritski AL, Cordeiro-Santos M, Gupta A, Hanna LE, Sterling TR, Araújo-Pereira M, Andrade BB; RePORT Brazil and RePORT India Consortia. *Journal of Infectious Diseases*. January 7, 2025. PMID: 39763217.

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