

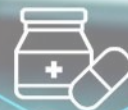


Texas Biomedical Research Institute & the Future of TB Research

Riti Sharan, PhD

Tuesday, March 24, 2026

2026 World TB Day Webcast • March 24, 2026 • Webcast



Riti Sharan, PhD

Has the following disclosures to make:

- No conflict of interests
- No relevant financial relationships with any commercial companies pertaining to this activity



Why do we need to train the next generation?



Dr. Riti Sharan

**Co-Lead, Development Core, The Interdisciplinary NexGen TB Research
Advancement Center (IN-TRAC)**

Assistant Professor, Texas Biomedical Research Institute

Texas Biomed is a leading research institute pioneering and sharing scientific breakthroughs to protect you, your families and our global community from the threat of infectious diseases

- Independent Nonprofit Res Inst (AIRI)
- 500 employees
 - 130+ PhD/MD/DVM scientists
 - 36 faculty (23 scientists/ 13 vets)
 - 20 post-docs/20 graduate students
 - 21 adjuncts/6 emeritus
 - 400+ research projects
- 200+ acres
 - 70,000 sq. ft. of lab space
 - Six BSL3 and a BSL4 facility
- 3 scientific programs (HPI, DIP, PH)
- Southwest National Primate Res. Ctr
 - 4000+ animals (NHPs/rodents)



Applied Science & Innovation Unit: Contract & Regulatory Science

Challenges in TB

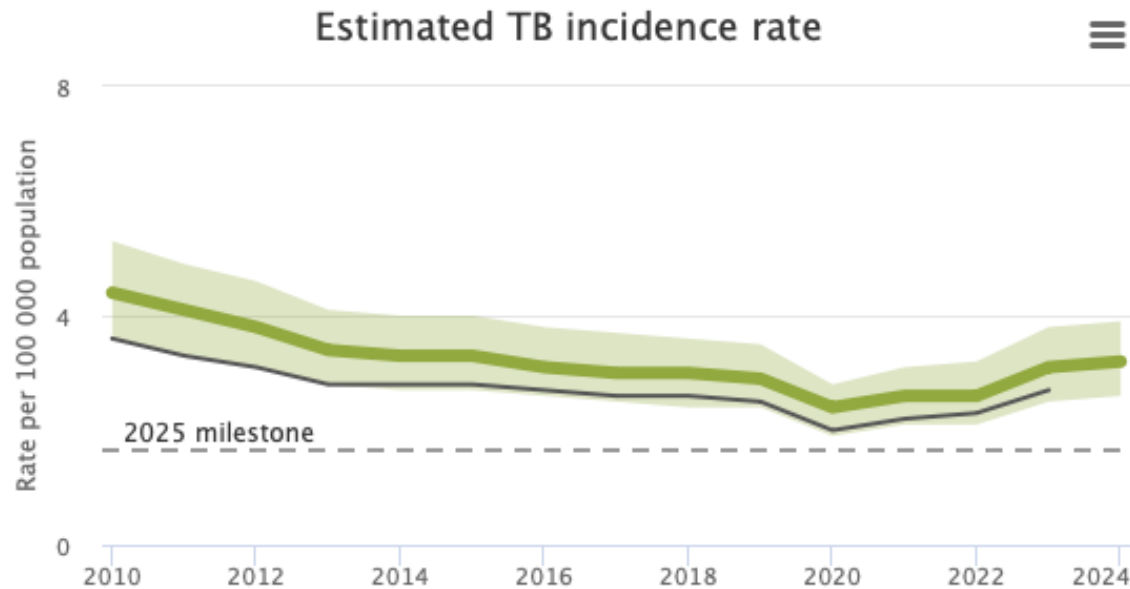
End TB Strategy milestones for 2025



TB DEATHS 2024 VS 2015

3.1% increase

(Target is 75% reduction by 2025)



Funding **cuts** **impact**
access to **tuberculosis (TB)**
services for millions

Happening now in the 30 highest TB-burden countries

- Essential TB services are **collapsing**
- Thousands of TB health workers **face layoffs**
- Drug supply chains are **breaking down**
- Laboratory services are **severely disrupted**
- Data and surveillance systems are **failing**
- Case finding and contact tracing are **weakening**
- Community-based TB services for referrals and patient support **impacted**



The Interdisciplinary NexGen TB Research Advancement Center (IN-TRAC)

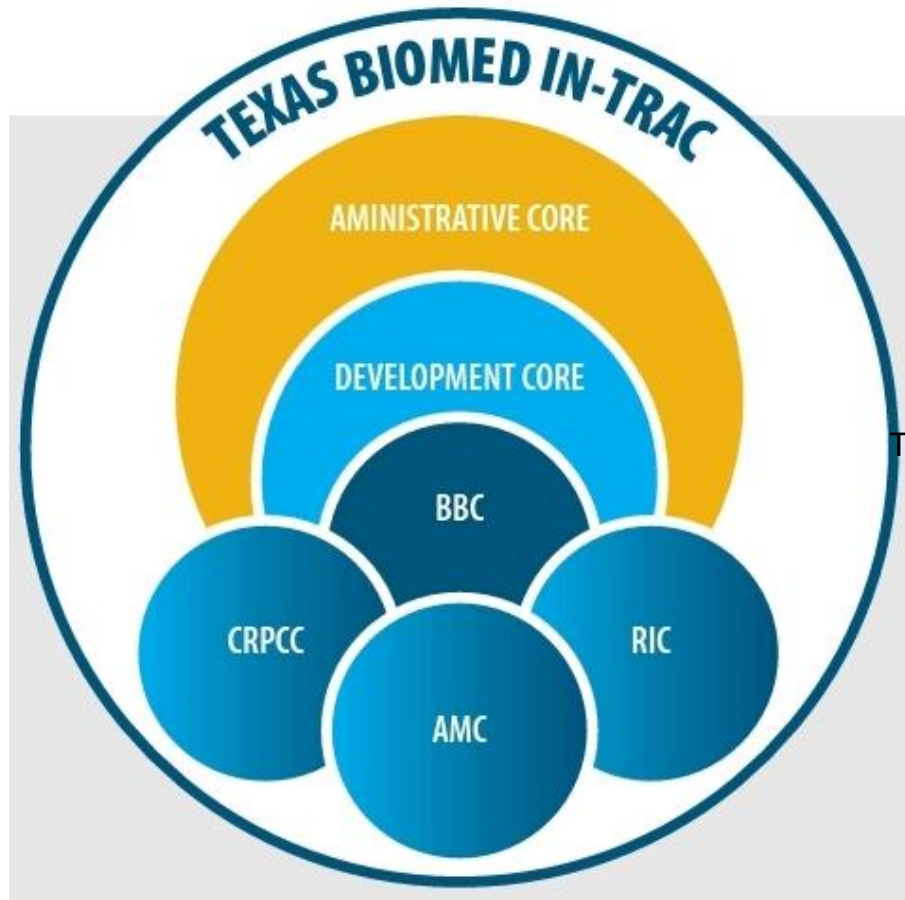


Goal of IN-TRAC

The goal for IN-TRAC participants is to create innovative educational platforms that will enable them to gain a deeper appreciation for the complexities of TB in humans, helping them better frame their research questions, and to develop a greater passion for their research, knowing how TB affects people in their lives and those around them.

The program creates new tools, approaches and strategies to advance training in a personalized way for the participants.

IN-TRAC @ a glance



Administrative Core (Admin Core)

Communicate with NIH/oversees cores

Dr. Larry Schlesinger

Kim Olsen and Darcy Shope and Dr. Abul Azad



Development Core (DevCore)

Career development programming and courses

Dr. Crystal Bolden-Rush and Dr. Riti Sharan



Biosafety & Biocontainment Core (BBC)

Biosafety & biocontainment curriculum including theoretical and hands-on training

Dr. Jordi Torrelles and Dr. Anthony Wang



Research Imaging Core (RIC)

Theoretical and hands-on training from single cell to whole body imaging in mice and NHPs

Dr. Deepak Kaushal



Animal Model Core (AMC)

Hands-on animal handling and experimental procedures, and regulatory requirements

Dr. Smriti Mehra and Dr. Tori Baxter

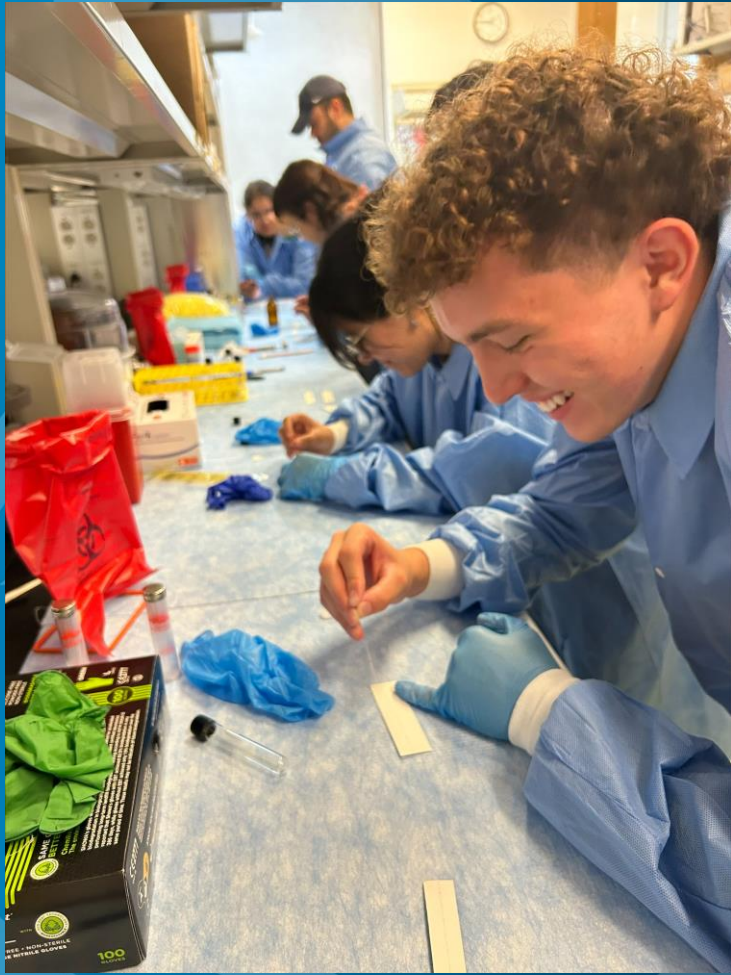


Clinical Research & Patient Care Core (CRPCC)

TB patient care and clinical research

Dr. Blanca Restrepo and Dr. Lisa Armitige





**Intensive Week
August 4-8, 2025**

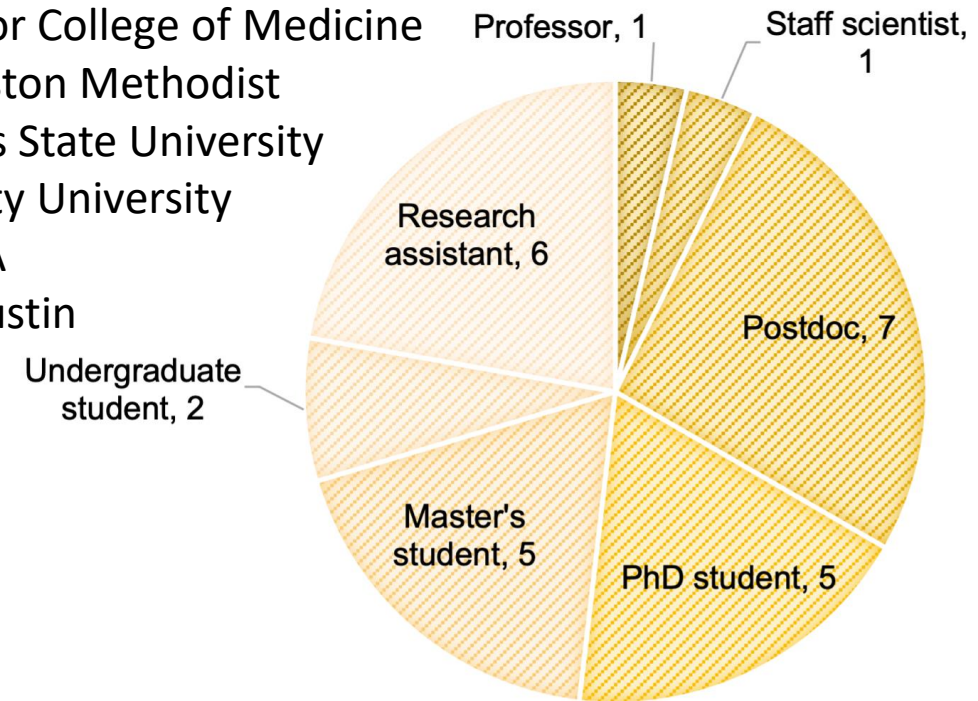


Participant Demographics

Goal of Intensive week

To provide participants with an intensive, immersive, and introductory training experience through a combination of didactic instruction and hands-on learning, followed by practical, on-site exposure, integrating research training with real-world clinical and patient care applications.

- 27 participants
- 93% trainees
- 70% external affiliations
 - UCSF
 - UTHouston-Brownsville
 - Baylor College of Medicine
 - Houston Methodist
 - Texas State University
 - Trinity University
 - UTSA
 - UTAustin



Structure of the Intensive Week

- 15 Courses
 - 12 hands-on
 - 3 didactic
- 2 Tours
 - SNPRC
 - BSL3: behind the scenes
- 2 Seminars
 - Institute: Dr. Piennar
 - IN-TRAC externship Dr. Barreiro
- Assessments
 - Pre-Course Assessment (PCA)
 - Post-Course Assessment (PsCA)



IN-TRAC SEMINAR
FEATURING
Luis Barreiro, Ph.D.
Uncovering the Molecular Basis of Immune Variation in Humans



Abstract: Humans have been co-evolving with pathogens since the emergence of our species, leaving traces of these interactions embedded in our genome. Infectious diseases have exerted strong selective pressures on human populations throughout history and continue to pose significant global health challenges, accounting for nearly 15 million deaths annually despite advancements in vaccines and antibiotics. These enc
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**2025
SEMINAR
PROGRAM**

Tuesday, August 5, 2025
12:00 pm - 1:00 pm
Denney Conference Room/Zoom



Elsjie Piennar, Ph.D.
Associate Professor,
Director of Undergraduate Programs
Purdue University

Layered structure and 3D movement work synergistically to reduce bacterial load in 3D in vitro models of TB granulomas

Unique TB Clinical and Field Research training sites in Texas

The **field studies training site** in South Texas

At Mexican border TB clinics: TB patients, their close contacts and community controls are enrolled

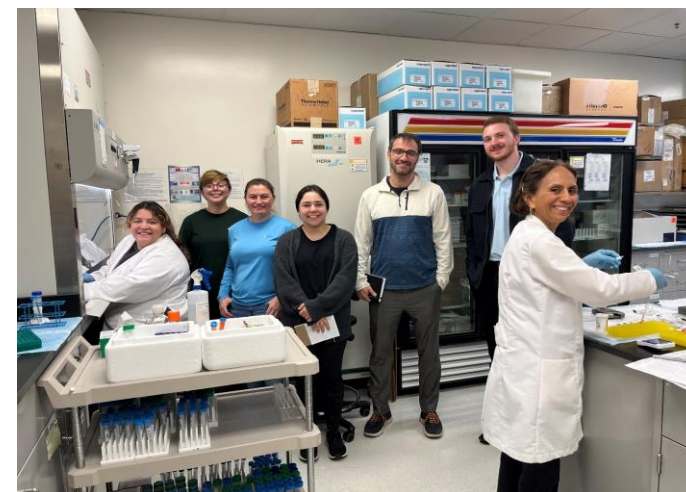
Learn how fresh specimens are transported across the international border to BSL2 and BSL3 border labs in Texas: Shadow the flow of specimens.

The **clinical training** site at TCID in San Antonio

The only free-standing **in-patient TB hospital** in the US

One on one interaction with a research coordinator

Learning from a physician scientist who is an expert in the management of the most difficult TB cases (e.g. drug-resistant TB, social challenges like homelessness, drug interactions due to comorbidities)



Annual IN-TRAC Patient Conference

We have an annual conference to bring together patients with TB, Doctors who treat them, and TB researchers to enhance shared knowledge and create valuable insights into those who are living with TB.



2025 IN-TRAC Patient Conference Recap

On October 30th, 2025, IN-TRAC held its third annual Patient Conference, bringing together patients, families, clinicians, researchers and public health professionals for a day of learning, reflection, and community. This year's conference featured a deeply moving patient panel that highlighted the lived experiences behind tuberculosis care and treatment.

We were honored to hear from Dr. Larry Schlesinger and Dr. Lisa Armitige of the Heartland National TB Center, who each delivered insightful presentations on current TB research, patient-centered care, and the future of collaboration across institutions. Their talks underscored the importance of innovation, compassion, and cross-sector partnerships.

[READ MORE BELOW](#)



IN-TRAC PATIENT CONFERENCE

THURSDAY OCTOBER 30th 12-2pm Texas Biomed Campus/ ZOOM

- Featuring a panel of adults living with TB.
- Scan the code for more information and to register!
- Lunch will be provided to in-person attendees!

