CONFERENCE REPORT

National Conference on Multidrug-Resistant Tuberculosis and Other Bacterial Infections

13th-14th February, 2026

Organized by

Rabindranath Tagore University,

Hojai, Assam- 782436

In collaboration with

Advanced Level Institutional Biotech Hub,

Assam University

Silchar-788011

And

Society for Antimicrobial Research

Sponsored by

Department of Biotechnology, GOI

Council of Scientific and Industrial Research (CSIR-HRDG)

National Conference on Multidrug Resistant Tuberculosis and Other Bacterial Infections, February 13-14, 2026

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INTRODUCTION

The Government of India has identified antimicrobial resistance (AMR) as a national priority, and the National Action Plan on AMR (NAP-AMR) was endorsed in alignment with the World Health Organization's Global Action Plan on AMR and launched in 2017. To continue the fight against AMR through the One Health Approach, a more practical NAP AMR 2.0 (2025-2029) was prepared. The key strategies implemented under this NAP AMR 2.0 focus on strengthening awareness, education, training, effective communication, and evidence through surveillance and laboratory strengthening. This echoes with the visionary mission of Hon'ble Prime Minister Shri Narendra Modi Ji's "TB Mukt Bharat Abhiyaan", which seeks to eliminate tuberculosis through early diagnosis, robust research, effective treatment and active community participation.

Keeping this mandate in mind, Rabindranath Tagore University, Hojai, Assam, in Collaboration with the Advanced Level Institutional Biotech Hub, Assam University, Silchar and the Society for Antimicrobial Research, had organized a two-day **National Conference on "Multidrug-Resistant Tuberculosis and Other Bacterial Infections**", which was held on 13th-14th February, 2026. The theme of the event was "Diagnostics to Therapeutics", which highlighted the journey from correctly identifying an infection to providing the right treatment at the right time.

PARTICIPATION

This conference brought together a diverse group of 9 distinguished speakers from prominent universities, medical colleges, research institutes, public health sectors and industry across different regions of the country such as Indian Institute of Technology Delhi; Indian Institute of Technology Kharagpur, Institute of Medical Sciences, Banaras Hindu University,Vellore Institute of Technology University, Vellore; Silchar Medical College and Hospital, Silchar, University of North Bengal; Dibrugarh University, and GlaxoSmithKline. These speakers represented a wide range of disciplines.

The conference hosted 120 participants from various states across the country, including Assam, Tripura, Manipur, Sikkim, West Bengal, Odisha, Uttar Pradesh, Maharashtra, Tamil Nadu, and Karnataka. The attendees included academicians, students, researchers, medical practitioners, medical microbiologists, engineers, biotechnologists, pharmacologists and innovators.

Image 1: Group photo after the inauguration with Hon'ble Vice Chancellor Prof Manabendra Dutta Choudhury, Chief Guest Prof Rajive Mohan Pant, Guest of Honour Dr. Binoy Kumar Saikia, , all the delegates and all the participants.

Day 1
INAUGURATION

The inauguration session commenced with a warm welcome to the conference, followed by the formal formation of the dais. The dignitaries present on the dais included the Chief Guest, **Prof. Rajive Mohan Pant**, Hon'ble Vice-Chancellor of Assam University; the Guest of Honour, **Dr. Binoy Kumar Saikia**, Chief Scientist, CSIR-NEIST, Jorhat and Shanti Swarup Bhatnagar Awardee (2021); the Hon'ble Vice-Chancellor of Rabindranath Tagore University, **Prof. Manabendra Dutta Choudhury**; Registrar i/c **Dr. Sandeep Ratna**; and the Organizing Chair, **Prof. Rezina Ahmed**.

This was followed by the felicitation of the dignitaries with traditional Phulam Gamosa and mementoes presented to the Chief Guest and the Guest of Honour as a mark of respect and gratitude. The ceremonial lighting of the lamp was then performed, accompanied by the recitation of the Bonti Projwalon song, symbolizing the illumination of knowledge.

The Rabindranath Tagore University Anthem was rendered thereafter. The formal proceedings continued with the welcome address delivered by the Organizing Chairperson, followed by the address of the Registrar. The Hon'ble Vice-Chancellor of RTU delivered the Presidential Address, highlighting the importance of academic collaboration and scientific responsibility. The Abstract Book of the conference was formally released during the session.

In his address, the Guest of Honour appreciated the theme of the conference and emphasized the urgent need to address multidrug-resistant tuberculosis and other bacterial infections. The Chief Guest, in his keynote address, stressed the importance of multidisciplinary research and collaborative scientific approaches to tackle antimicrobial resistance.

The session concluded with a vote of thanks proposed by the Organizing Secretary, Dr. Dhanawantari L. Singha. Thereafter, the State Anthem and the National Anthem were rendered, followed by a group photograph. The programme concluded with high tea and an informal interaction among dignitaries and participants.

Image 2-5: Abstract release by the dignitaries; Felicitation of the guests; Presidential inaugural address by the Hon;ble Vice Chancellor, Prof Manabendra Dutta Choudhury

Day 1
Technical Session 1
Theme: Dignostic Solutions of AMR

Session Chair: Prof. Debadatta Dhar Chanda, Silchar Medical College &Hospital

Session Co-Chair: Prof. Dolly Roy, Silchar Medical College & Hospital

Technical Session–I focused on recent advances in diagnostic technologies for combating antimicrobial resistance (AMR), highlighting the urgent need for rapid, accurate, and clinically applicable detection methods. The session was chaired by Prof. Debadatta Dhar Chanda and co-chaired by Prof. Dolly Roy, who emphasized the importance of early detection in improving treatment outcomes and reducing the spread of resistant pathogens.

The first lecture was delivered by **Prof. Tuhina Banerjee (Banaras Hindu University)** on *"Tackling AMR with Diagnostics: Basics to Rapids."* She discussed the evolution of diagnostic microbiology from conventional culture-based methods to rapid molecular techniques. The talk highlighted the role of timely identification of pathogens, point-of-care testing, and rapid susceptibility testing in guiding appropriate antibiotic therapy. She stressed that faster diagnostics directly reduce empirical antibiotic usage and thereby help control resistance development.

The second lecture by **Prof. Ravikrishnan Elangovan (IIT Delhi)** on *"Automated AI-Powered Microscopy to Track Live Bacilli for Monitoring TB Therapy Response"* presented an innovative integration of artificial intelligence with microscopy. He demonstrated how automated imaging systems can detect and quantify live Mycobacterium tuberculosis in real time. The technology enables clinicians to monitor treatment response more accurately and earlier than traditional methods, offering a powerful tool for personalized tuberculosis therapy management.

The third lecture was delivered by **Prof. Ranadhir Chakraborty (University of North Bengal)** on *"Promise of Metagenomics as a Diagnostic Tool for Antimicrobial Resistance."*

He explained how next-generation sequencing and metagenomic analysis allow detection of pathogens and resistance genes directly from clinical samples without prior culturing. The approach can identify mixed infections, rare organisms, and resistance determinants simultaneously, making it a transformative strategy for future clinical diagnostics.

Overall, the session provided valuable insights into modern diagnostic strategies, ranging from rapid molecular assays and artificial intelligence-based monitoring to advanced sequencing approaches. The speakers collectively highlighted that strengthening diagnostic capacity is a key step toward effective antimicrobial stewardship and better patient care.

Image 3: Few glimpses of the technical session 1

Day 1
Technical Session 2
Theme: Multidrug-Resistant Tuberculosis and MDR

Chair: Prof. Ranadhir Chakraborty, University of North Bengal

Co-Chair: Prof. Tuhina Banerjee, Banaras Hindu University, Varanasi

Technical Session–II focused on multidrug-resistant tuberculosis (MDR-TB) and other emerging resistant infections of clinical importance. The session was chaired by Prof. Ranadhir Chakraborty and co-chaired by Prof. Tuhina Banerjee, who highlighted the growing burden of resistant pathogens in healthcare settings and the urgent need for multidisciplinary research and clinical intervention strategies.

The first lecture of the session was delivered by **Prof. Debadatta Dhar Chanda (Silchar Medical College and Hospital)** on *"Multidrug Resistance in Gram-Negative Clinical Isolates in a Tertiary Care Centre."* He presented hospital-based surveillance data showing a rising trend of resistance among Gram-negative bacteria. The talk emphasized the role of antibiotic misuse, hospital transmission, and the importance of infection control practices and antimicrobial stewardship programs in clinical management.

The second lecture by **Prof. Anindya Sundar Ghosh (IIT Kharagpur)** on *"A Unique Correlation between Metal Transporters and Antibiotic Resistance in Mycobacteria"* explored molecular mechanisms underlying resistance in mycobacteria. He explained how metal ion transport systems influence bacterial survival and antibiotic tolerance, opening new possibilities for targeted therapeutic interventions.

The third lecture was delivered by **Prof. Anand Anbarasu (VIT, Vellore)** on *"Understanding the Mechanisms of Antibiotic Resistance in Mycobacterium tuberculosis and Designing Potential Inhibitors by In-Silico Approaches."* He demonstrated the application of computational biology, molecular modeling, and drug-design strategies in identifying potential inhibitors against resistant TB strains, highlighting the significance of bioinformatics-driven drug discovery.

The session concluded with an **Oral Paper Presentation (3 papers)** and an interactive **Poster Presentation session**, where young researchers presented their findings related to antimicrobial resistance, tuberculosis, and emerging bacterial infections. The discussions encouraged academic exchange and provided valuable feedback to early-career researchers.

Overall, Technical Session II successfully highlighted clinical challenges, molecular mechanisms, and emerging research strategies to combat MDR-TB and resistant bacterial infections.

Image 3: Few glimpses of the technical session 2

Day 1
Cultural Night & Welcome Dinner

Venue: Kala Guru Bishnu Prasad Rabha Auditorium

The conference concluded the day's academic deliberations with a vibrant Cultural Programme held at the Kala Guru Bishnu Prasad Rabha Auditorium. The programme showcased a rich blend of traditional and contemporary performances, reflecting the cultural heritage and artistic diversity of the region. The performances provided a refreshing interlude after the technical sessions and created a platform for cultural exchange among participants, dignitaries, and delegates. The evening fostered camaraderie and strengthened interpersonal connections in a relaxed and celebratory atmosphere.

Welcome Dinner

The Cultural Programme was followed by the Welcome Dinner, which offered an opportunity for delegates, speakers, and organizers to interact informally. The dinner facilitated meaningful discussions, networking, and exchange of ideas beyond the formal academic setting. The warm hospitality and cordial interactions further enhanced the spirit of collaboration and fellowship among the participants.

Image 4: Few glimpses of the Cultural Programme

Day 2
Technical Session-3
Theme: Therapeutic Options for MDR Infections

Chair: Prof. Anindya Sundar Ghosh, IIT, Kharagpur

Co-Chair: Dr. Bipin Kumar Sharma, Assam University

Technical Session- III addressed emerging therapeutic strategies for the management and treatment of multidrug-resistant (MDR) infections, particularly tuberculosis and respiratory bacterial diseases. The session was chaired by Prof. Anindya Sundar Ghosh and co-chaired by Dr. Bipin Kumar Sharma, who emphasized the necessity of integrating diagnostics with advanced therapeutics to effectively combat antimicrobial resistance.

The first lecture *"Management of Multidrug Resistant Tuberculosis,"* was delivered by **Prof. Dolly Roy (Silchar Medical College and Hospital)**. She discussed current treatment guidelines, drug regimens, treatment duration, and patient management challenges in MDR-TB. The lecture emphasized adherence to therapy, monitoring adverse drug reactions, and strengthening public health strategies to improve treatment outcomes.

The third lecture by **Dr. Anand Manoharan (GSK, UK)** on *"Community Acquired Respiratory Tract Infections Caused by Multidrug Resistant Streptococcus pneumoniae in India - Epidemiology and Therapeutic Options"* highlighted resistance trends in respiratory pathogens. He discussed evolving epidemiology, vaccine relevance, and optimized antimicrobial therapy for community-acquired infections in the Indian scenario.

The session concluded with an **Oral Paper Presentation (5 papers)**, where young researchers presented their findings related to therapeutic interventions and management strategies for MDR infections. The interaction between speakers and participants enriched the scientific discussions and encouraged translational research perspectives.

Overall, the session provided valuable insights into innovative treatment approaches, clinical management practices, and emerging therapeutic technologies aimed at combating MDR infections.

Image 5: : Few glimpses of the Technical Session 3

Day 2
Validictory Session

The validictory session was chaired by Hon'ble Vice Chancellor Prof Manabendra Dutta Choudhury, and chief guest Prof Rajive Mohan Pant. The session was started with the reading of the conference report by the organizing secretary Dr Dhanawantari L. Singha and opened for the suggestions and recommendations from the house with due approval from the chair. The house has recommended many important points such as

- Emphasized the urgent translation of laboratory research outcomes into clinical practice to bridge the gap between researchers and medical practitioners.
- Strongly advocated for strict regulation and immediate control of indiscriminate over-the-counter retail sale of antibiotics.
- Highlighted deficiencies in medical documentation systems in government hospitals and stressed the need to strengthen systematic record-keeping and surveillance mechanisms.
- Recommended increased and sustained investment in both basic and medical research related to antimicrobial resistance (AMR).
- Underscored the importance of continuous administrative and financial support for research initiatives on AMR.
- Encouraged stronger collaboration with government agencies and organizations working on AMR.
- Called for scaling up research and development activities and fostering partnerships with industry to translate research into practical solutions.
- Emphasized the need for awareness programmes related to AMR targeting young learners, from school level to university graduates, to build responsible antibiotic usage practices.
- Recommended greater uniformity and coherence in national AMR policies.
- Stressed the crucial role of young researchers and students in addressing AMR and transforming challenges into opportunities.

- Highlighted the importance of implementing regulatory mechanisms governing antibiotic use in livestock in India.
- Advocated for a stronger focus on translational and multidisciplinary research approaches.
- Suggested increased engagement with policymakers, including pre-conference consultations and structured interactions to ensure research-informed policy decisions.

The recommendations were approved along with the conference reports. This was followed by the announcement of the 1st, 2nd, and 3rd prize winners of the Poster and Oral Presentation sessions, and the winners were presented with certificates and trophies. The programme then proceeded with the valedictory address by the Chief Guest, followed by the Vote of Thanks.

Day 2
Seight Seeing Programme

A sightseeing programme was organized to **Panimur Waterfall, Dima Hasao**, where participants, delegates, and members of the organizing committee visited and enjoyed the breathtaking natural beauty of the location. The serene surroundings provided a refreshing and relaxing conclusion to the academic deliberations.

On the way, the participants also visited the 4th Campus of Rabindranath Tagore University, The Veer Sengya Sambudhan Phonglo Campus, Dima Hasao, located at Haflong Tiniali.

In summary, this conference brought together clinicians, microbiologists, biotechnologists, academicians, policymakers, public health experts and young scholars to deliberate on current challenges, recent scientific advances, innovative diagnostics, effective strategies, antimicrobial stewardship, surveillance, translational research and strengthened India's capacity to combat drug-resistant infections in alignment with national and global health goals.