

American Leprosy Missions NTD Innovation Prize

Five Year Impact: \$181,000

NTD Innovation Prize Winners

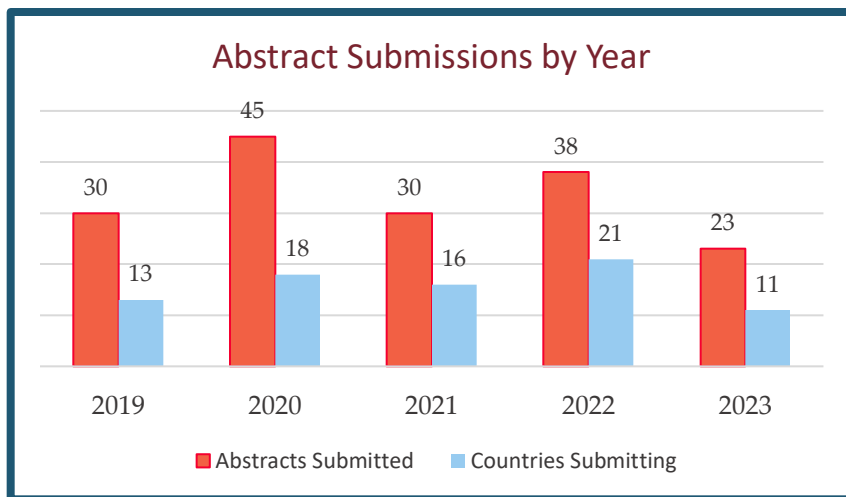
| Year | Project Title |
|------|---|
| 2023 | Citizen science for mapping snail-borne diseases: a community-based approach to revolutionize snail control in Uganda and DR Congo |
| 2022 | Scaling up the pilot learning of digital leprosy complication care and follow-up in 20 districts across Bangladesh |
| 2021 | Using artificial intelligence to predict trachoma progression from photographs and in vivo microscopy images |
| | Smart and affordable digital diagnostic for schistosomiasis |
| | Development of the dried reagent based IS2404 loop-mediated isothermal amplification test for the diagnosis of Buruli ulcer disease |
| 2020 | Cell-free DNA: A promising biomarker for onchocerciasis elimination mapping? |
| 2020 | Applying spectral imaging to leprosy diagnosis |
| 2019 | Exploring the viability of excreta sampling for monitoring human African trypanosomiasis (HAT) |



2023 NNN Delegates, Dar es Salaam, Tanzania



2023 Prize Winner - ATRAP research team



Prize Priorities

2019 : NNN BEST framework

2020 : BEST framework + cross-cutting themes related to data and analytics

2021 : data and analytics, diagnostics

2022 : digital health and technology

2023 : mapping and spatial analysis

Prize Winner Updates



April 2023 Training

Scaling up pilot learning of digital leprosy complication care and follow-up in 20 districts across Bangladesh

Jiptha Boiragee, The Leprosy Mission - Bangladesh, 2022

TLM Bangladesh is partnering with ALO—the umbrella body for 1500 self-help groups of people affected by leprosy—to reach people suffering complications from leprosy with remote care. Local members of ALO groups will use video calls with TLM medical staff to deliver interventions. The research team held a workshop in April to train local community contacts on disability prevention and digital reporting with ALO's smart phone application. Trainees received smart phones and funds for the project.

Smart and affordable digital diagnostic for schistosomiasis

Dr. Temitope Agbana, 2021

This project seeks to develop a smart and affordable digital tool for diagnosis of schistosomiasis in rural endemic areas. This tool, the Schistoscope, is a novel methodology that combines technical optics and specialized data-driven algorithms to realize an integrated, portable and reliable smart optical diagnostic system.

To date, the project has analyzed 1,200 samples in Gabon and are finalizing the software algorithm.

Applying spectral imaging to leprosy diagnosis

Dr. Arie de Kruijff, Dr. Suwash Baral, Dr. Deanna Hagge, 2020

This project is working to develop a field-friendly tool to assess suspect leprosy lesions with rapid and accurate results. Building on similar work for skin melanoma, this project will find spectral chromophore patterns of skin affected by leprosy in comparison with healthy skin of the same person.

This project, implemented in Mozambique and Nepal, has completed data collection and started analysis to inform next steps.

Exploring the viability of excreta sampling for monitoring human African trypanosomiasis (HAT)

Dr. Tito Trésor Melachio, Dr. Joseph Pryce, 2019

This idea proposes a technique to collect and concentrate the excreta from mosquitoes to help detect the presence of human African trypanosomiasis within a community. Cows are used as the animal model. During project activities in Cameroon, around 2,000 cows were screened in 3 field trips and 300 wild mosquitoes (Anopheles and Culex) were captured and tested for presence of trypanosomes. Further testing and analysis are ongoing.

Since 2019, American Leprosy Missions has received 166 abstracts and awarded eight projects a total of **\$181,000** to support innovation in diagnostics, data, analytics and digital technologies to address NTD challenges. Winners have applied Prize funds to achieve research milestones and pivot their approaches, leveraging other support for sustained exploration.