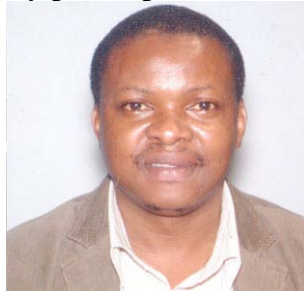


**Dartmouth-BU AITRP
Short Term Training**

**Dr. Mecky Matee
Theckla S. Kazimoto
September 2004
Turku and Kuopio, Finland**

1. Fogarty participants from Tanzania:



Dr. Mecky Matee, Department of Microbiology and Immunology, Muhimbili University College of Health Sciences, and Laboratory Coordinator for the DARDAR Health Study in Dar es Salaam



Ms Theckla Kazimoto, Tanzania Central TB Reference Laboratory (CTRL), and TB technician, DARDAR Health Study

2. Preceptors in Finland

- Hanna Soini, Ph. D. Director, Finnish National TB Reference Laboratory, Turku, Finland, Co-investigator, DARDAR Health Study
- Marja Leena Katila, MD, Ph. D., Director Emeritus, Mycobacteriology Laboratory, Kuopio University, Hospital, Finland, Laboratory Consultant, World Health Organization, and DARDAR Health Study
- Jenni Vuola, Ph. D., National Public Health Institute of Finland, Helsinki; Immunology Director, DARDAR Health Study

3. Dr. Matee's program. Dr. Matee worked with Dr. Soini at the Mycobacterial Reference Laboratory at the National Public Health Institute in Turku, Finland from 02nd - 16th September 2004. The main purpose of the visit was to learn additional research laboratory techniques for *M. tuberculosis* and other mycobacterial species of clinical importance. The following techniques were covered:

- *Drug Susceptibility Testing (DST) by Proportion Method on Middlebrook 7H10 Agar
- * Molecular typing of *M. tuberculosis* isolates by
 - IS6110 RFLP
 - Spoligotyping
- *Identification of Mycobacterial isolates by
 - MTB complex AccuProbe Hybridization Assay
 - Genotype Mycobacteria Hybridization Assay
- *General technical aspects of mycobacterial diagnosis

- AFB smear preparation & microscopy examination
- Mycobacterial cultures
- Quality control procedures and safety issues in a TB lab
- * Review of TB bacteriology results from the DARDAR Study
- * Review of lymphocyte proliferation techniques and results with Dr. Jenni Vuola at the National Public Health Laboratory of Finland in Helsinki.

4. **Ms. Kazimoto's program.** MS Theckla S. Kazimoto from the Central TB Reference Laboratory (CTRL) in Dar es Salaam trained with Dr. Soini at the Mycobacterial Reference Laboratory at the National Public Health Institute in Turku – Finland from 02nd - 30th September 2004. The main purpose of the visit was to learn laboratory research techniques with *M. tuberculosis* and other mycobacterial species of clinical importance. The following laboratory technical procedures were covered:

- * Drug Susceptibility Testing (DST) by Proportion Method on Middlebrook 7H10 Agar. Forty five isolates from DARDAR Health Study were tested and results of 35 isolates were read on the last week of the visit.
- * Molecular typing of *M. tuberculosis* isolates by
 - IS6110 RFLP
 - Spoligotyping
- * Identification of Mycobacterial isolates by
 - M. tuberculosis* complex AccuProbe Hybridization Assay
 - Genotype Mycobacteria Hybridization Assay
- * General technical aspects concerning Mycobacterial diagnosis
 - AFB smear preparation & Microscopy examination
 - Mycobacterial cultures
 - Quality control procedures executable in a TB lab
 - Lab hygiene & safety procedures
 - Lab administration and records
- * Additional training with Prof Marja-Leena Katila at Kuopio and Paimo
 - Direct smear preparation, staining & AFB microscopy examination
 - Mycobacterial culture (Homogenisation, Decontamination, Neutralization, and Inoculation).
 - Media preparation

5. Comments from Fogarty participants.

- The laboratories we visited in Turku and Helsinki are well organized with good facilities for the diagnosis of tuberculosis and other mycobacterial strains of medical importance.
- Laboratory staff work very professional, using good lab working practices and have long experience concerning mycobacterial diagnosis
- Long term collaboration with the Finnish Institute would improve the of quality of research not only for the going on DARDAR Health Study but also for the whole CTRL.
- Identification tests for mycobacterial isolates used at Mycobacterial Ref. laboratory –Turku (i.e AccuProbe and Genotype Mycobacteria hybridization Assays) and molecular typing by spoligotyping are very simple and rapid, species identification and strain typing can be achieved within a single day.

- We would appreciate continuation of such visits for researchers in Finland and Tanzania, specifically on issues of quality assurance, species identification and strains typing for Mycobacterial isolates recovered in Tanzania as well as mutual research activities aimed at improving the diagnostic capacity of the CTRL, which is the central TB diagnostic laboratory in Tanzania.