



## TUBERCULOSIS

### *MYCOBACTERIUM TUBERCULOSIS*

#### Global prevalence

- ca. 10 Mio in 2020

#### Challenges

- “The world’s leading infectious killer” – emergence of drug resistance

#### Research topics at ITM

- Improved (new) drug-susceptibility testing – Phenotypic microbiological methods
- New treatment /prophylaxis regimens – Clinical trials
- Improved storage and transport conditions – Molecular diagnostics (DNA/RNA-based)

### *MYCOBACTERIUM LEPRAE*

#### Global prevalence

- 133 802, mainly in endemic pockets

#### Challenges

- Non-culturable organism – long latency – ongoing transmission

#### Research topics at ITM

- Investigation of transmission chains – Genotyping, NGS
- Optimal control in hyperendemic areas – Chemoprophylaxis
- New diagnostics to detect viable bacteria – RNA-based viability assays



## LEPROSY



## BCCM

### BELGIAN COORDINATED COLLECTIONS OF MICROORGANISMS

→ Identification of unknown mycobacterial species

- Phenotypic
  - Biochemical essays – growth conditions
  - Colony morphology, pigmentation
- Genotypic
  - Whole genome sequencing
  - Phylogenetic trees



## THE TEAM



#### Contact

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