# Theoretical and Practical TB course, Institut Pasteur and Nanshan CCDC,

Oct 14-26, 2018 Shenzhen, China

**Sunday 14 Oct: Lectures, Open to Anyone Who Registers**

<table>
<thead>
<tr>
<th>Time</th>
<th>Lecture</th>
<th>Language</th>
<th>Speaker/Institution</th>
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<tbody>
<tr>
<td>08:30</td>
<td>Representative From Beijing</td>
<td>Chinese</td>
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<tr>
<td>08:40</td>
<td>Brigitte Gicquel, Institut Pasteur, Paris</td>
<td>English</td>
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<td>08:50</td>
<td>Representative of Nanshan</td>
<td>Chinese</td>
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<tr>
<td>09:00</td>
<td><strong>Lecture:</strong> Representative of Ministry of Health, Beijing</td>
<td>Chinese</td>
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<td>10:00</td>
<td><strong>Lecture:</strong> Representative of China CDC</td>
<td>English</td>
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<tr>
<td>11:00</td>
<td><strong>Lecture:</strong> General Epidemiology of Tuberculosis</td>
<td>English</td>
<td>Philippe Glaziou, World Health Organisation, Geneva</td>
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<tr>
<td>14:30</td>
<td><strong>Lecture:</strong> Representative of Guangdong CTC</td>
<td>Chinese</td>
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<tr>
<td>15:45</td>
<td><strong>Lecture:</strong> The short term treatment for MDR tuberculosis</td>
<td>English</td>
<td>Arnaud Trebuch, The Union Against Tuberculosis and Lung Disease, Paris, France</td>
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<tr>
<td>16:30</td>
<td><strong>Lecture:</strong> Representative of Shenzhen CCDC</td>
<td>Chinese</td>
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<td>14:30</td>
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<td>17:30</td>
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**Monday 15-Oct**

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<thead>
<tr>
<th>Time</th>
<th>Lecture</th>
<th>Language</th>
<th>Speaker/Institution</th>
</tr>
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<tbody>
<tr>
<td>08:30</td>
<td><strong>Lecture:</strong> Clinical aspects in Tuberculosis</td>
<td>English</td>
<td>Steffen Stenger, Ulm University, Ulm, Germany</td>
</tr>
<tr>
<td>09:30</td>
<td><strong>Lecture:</strong> Treatment of Tuberculosis</td>
<td>English</td>
<td>Wenhong Zhang, Fudan University, Shanghai</td>
</tr>
<tr>
<td>10:30</td>
<td><strong>Lecture:</strong> Treatment of Tuberculosis Including MDR and XDR-TB</td>
<td>English</td>
<td>Nicolas Veziris, Hospital Pitié Salpétrière, Paris</td>
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<tr>
<td>12:00</td>
<td>lunch</td>
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<tr>
<td>01:30</td>
<td><strong>Lecture:</strong> The fight against Tuberculosis - general aspects</td>
<td>English</td>
<td>Steffen Stenger, Ulm University, Ulm, Germany</td>
</tr>
<tr>
<td>02:30</td>
<td><strong>Lecture:</strong> Pediatric TB</td>
<td>English</td>
<td>Christophe Delacourt, Necker Childrens' Hospital, Paris</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>Lecture:</strong> Latency</td>
<td>English</td>
<td>Ying Zhang, Johns Hopkins Center for Tuberculosis Research - Baltimore - U.S.A.</td>
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<tr>
<td>17:00</td>
<td><strong>Lecture:</strong> TB HIV/Diabetes</td>
<td>English</td>
<td>Veronique Joly, Hospital Bichat–Claude Bernard, Paris</td>
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**Tuesday 16-Oct**

08:30 **Lecture:** Immunology of TB  
09:30 **Lecture:** Host-Pathogen Interactions  
10:30 **Lecture:** Phenotypic and molecular tests for diagnosis  
12:30 **lunch**  
14:00 **Lecture:** IGRA and Biomarkers  
15:00 **Lecture:** Current and future technical options for the diagnosis of drug resistant tuberculosis  
16:00 **Lecture:** Tuberculosis resistance: value of rapid testing in various infrastructure settings  
17:00 **Lecture:** NTM Detection and speciation; when to treat  
18:00 **Lecture:** Evaluation of new diagnostic techniques

**Wednesday 17 October**

08:30 **Lecture:** Drug action and Resistance Mechanisms  
10:00 **Lecture:** Drug Discovery  
11:00 **Lecture:** New Drugs, New Regimens, Drug trials  
12:30 **lunch**  
14:00 **Lecture:** Population structures and evolution of M. Tuberculosis  
03:30 **Lecture:** TB molecular Epidemiology  
04:45 **Lecture:** Clinical usefulness of WGS

**Laboratory Practical Workshop, University of Shenzhen**

**Thursday 18 October**

Introduction to the Lab  
Pre-test for practical session  
**Practical workshop:** Antibiotic Resistance sequencing  
**Practical workshop:** ZN Staining and microscopy  
**Practical workshop:** Kudoh inoculation  

Catherine Pierre-Audigier  
Howard Takiff  
Catherine Pierre-Audigier  
Howard Takiff
Practical workshop: MIRU-VNTR

**Friday 19 October**
Practical workshop: GeneXpert
Practical Workshop: Spoligotyping

**Saturday 20 October**
Practical workshop: Line Probe assay (Hain)
MTBDRplus/sl
melting Curve method to detect the mutations

**Sunday 21 October - Group Trip**

**Monday, 22 October**
Practical Workshop: Hain Test
Practical Workshop: Spoligotyping

**Tuesday 23 October**
Intro to bioinformatics
Ugene or Seqman, exercises with unknowns, Blast,

**Wednesday 24 October**
Continue with Bioinformatics exercises
Exam

**Thursday 25 October**
Multiplex PCR and NGS for detecting Drug Resistance
Review Exam

**Friday 26 October**
Continue WGS basics
Course closure
Dinner

Learning melting Curve method – Qian Gao to invite Xiamen, Zhishan

Cepheid, China
Dick van Soolingen, and Xiamen, Zhishan

Catherine Pierre Audigier, and melting Curve method, Qian Gao to invite Xiamen, Zhishan

Bioinformatics: Sanger Sequencing, Multiplex and WGS

Howard Takiff

Howard Takiff
Brigitte Gicquel, Catherine Pierre Audigier, Howard Takiff

Philip Supply, Univ. de Louvain; Institut Pasteur, Lille, France; Genoscreen
Brigitte Gicquel, Catherine Pierre Audigier, Howard Takiff

Qian Gao's Lab