

TBSCIENCE 2022

Virtual Event
November 8-11

#TBScience

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Programme

Version: 3 October 2022

Tuesday, November 8, 2022

Theme: TB risk and outcome: influence of co-morbidities and environmental factors

The risk of TB and its outcome are intimately linked to factors other than the mycobacterial infection alone. The session will explore how host characteristics such as age, pregnancy and nutritional status; co-morbidities such as HIV infection and diabetes; and environmental and climatic factors effect TB manifestations, diagnosis and management.

Channel 7 - TBScience

15:00 – 16:38	TBS-01	Environment Chair: Willem Hanekom (South Africa)
15:00 – 15:03		Introduction
15:03 – 15:23		Climate change and ID Speaker: TBC
15:23 – 15:43		Acute and chronic conflicts and tuberculosis Speaker: Bern-Thomas Nyang'wa (Amsterdam, Netherlands)
15:43 – 16:03		Micronutrients and TB - Vitamin A and tuberculosis Speaker: Megan Murray (United States)
16:03 – 16:23		Micronutrients and TB - Vitamin D and tuberculosis Speaker: Adrian Martineau (United Kingdom)
16:23 – 16:38		Discussion
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16:45 – 17:30	TBS-02	TB risk and outcome - co-morbidities and environmental factors - Oral Abstracts Chair: Rada Savic (USA)
16:45 – 16:48		Live introduction
16:48 – 16:56		Systemic influenza infection impairs whole blood mycobacterial control in a human challenge study Oral Presenter: Claire Broderick (London, United Kingdom)
16:56 – 17:04		Influence of chronic hyperglycemia on macrophage innate immune responses in pulmonary tuberculosis Oral Presenter: Archana Singh (New Delhi, India)
17:04 – 17:12		Breath Volatile Organic Compounds for the Prediction of Childhood TB Oral Presenter: Robert Castro (San Francisco, United States)

TBSCIENCE 2022

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17:12 – 17:20		Development of ultra-sensitive immunoassays for the detection of Mtb-proteins in the plasma and urine of adults with and without HIV
17:20 – 17:30		Live Q&A
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17:40 – 19:23	TBS-03	TB risk and outcome: role of co-morbidities Chair: Dorothy Yeboah-Manu (Ghana) and Grania Brigden (Switzerland)
17:40 – 17:43		Introduction
17:43 – 18:03		Results from a large study of TB and multimorbidity Speaker: Emily Wong (South Africa)
18:03 – 18:23		TB and diabetes mellitus - Host interactions Speaker: Hardy Kornfeld (United States)
18:23 – 18:43		TB and diabetes mellitus - Clinical interactions Speaker: Blanca Restrepo (United States)
18:43 – 19:03		Pregnancy and antimycobacterial therapy (TBC) Speaker: Amita Gupta (United States)
19:03 – 19:23		Discussion

Wednesday, November 9, 2022

Theme: Tackling TB disease across the spectrum

Growing awareness of TB's temporal course provides new opportunities for combating the disease – from the incipient and subclinical stages as a possible window for redirecting TB epidemics, to post-TB lung disease as a source of morbidity requiring better management and prevention. This session will explore the implications of recent research for how we address the spectrum of TB disease, with a focus on the development of appropriate diagnostic and therapeutic strategies across the spectrum of TB disease

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15:00 – 16:20	TBS-04	What should we do about incipient TB? Chair: Susan Swindells (United States)
15:00 – 15:03		Introduction
15:03 – 15:16		Contextualizing results of incipient TB interventions Speaker: Mark Hatherill (South Africa)
15:16 – 15:29		Should the spectrum of disease be matched to a spectrum of treatment? Speaker: Frank Cobelens (Netherlands)
15:29 – 15:42		Can smart trial design lead to effective interventions for incipient TB? Speaker: Hanif Esmail (United Kingdom)

TBSCIENCE 2022

Virtual Event
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15:42 – 15:55

How should we prioritize interventions across the early TB disease spectrum?

Speaker: Gregory Fox (Australia)

15:55 – 16:20

Moderated roundtable discussion

16:30 – 17:15

TBS-05

Tackling TB disease across the spectrum - Oral Abstracts

Chair: Bianca Sossen (South Africa) and Emily Kendall (United States)

16:30 – 16:33

Introduction

16:33 – 16:41

Isolation of viable aerosolized Mycobacterium tuberculosis during TB therapy and transient infection

Oral Presenter: Benjamin Patterson (Amsterdam, Netherlands)

16:41 – 16:49

Samples collected and quantified by qPCR show tongue swabs may approach sensitivity of sputum-based TB Dx

Oral Presenter: Amy Steadman (Bellevue, WA, United States)

16:49 – 16:57

Plasma proteomics for the discovery of novel biomarkers for childhood pulmonary tuberculosis

Oral Presenter: Peter Wambi (Kampala, Uganda)

16:57 – 17:05

Distinct lung and lymph node features on high resolution imaging of asymptomatic household contacts of TB attributed to immune cell-specific signatures in blood

Oral Presenter: Dylan Sheerin (Australia)

17:05 – 17:15

Live Q&A

17:25 – 18:15

TBS-06

Where are we in addressing post-TB lung disease?

Chair: Gavin Churchyard (South Africa) and Akshay Gupte (United States)

17:25 – 17:28

Introduction

17:28 – 17:40

Defining and measuring the problem

Speaker: Andrea Rachow (Germany)

17:40 – 17:50

Interventions: What can we do to prevent post-TB lung disease?

Speaker: Stellah Mpagama (Tanzania)

17:50 – 18:00

Interventions: What pulmonary interventions can change its course?

Speaker: Bruce J. Kirenga (Uganda)

18:00 – 18:15

Live Q&A

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Thursday, November 10, 2022

Theme: TB data in a globalised world

Harnessing data to catalyse progress in TB science is of growing importance. This session will explore how to enhance global data access and interoperability, facilitate big data approaches, promote transdisciplinary integration of trial, clinical, programmatic, biological, and geospatial data, and ultimately use data to advance science and benefit people in TB care. We will consider the role of nations, regulators, and the WHO in facilitating data collection and its real-time sharing to inform such efforts.

Channel 7 - TBScience

15:00 – 16:37	TBS-07	Big data – what has it done for us already? Chair: Thuong Thuong Nguyen (Vietnam) and Claudia Denking (Germany)
15:00 – 15:03		Introduction
15:03 – 15:23		How big data are transforming health research Speaker: Ben Goldacre (United Kingdom)
15:23 – 15:33		How have NTPs contributed to global learning? Speaker: Nhung Viet Nguyen (Vietnam)
15:33 – 15:43		Remote monitoring and reporting of digital diagnostics Speaker: Chris Isaacs (United Kingdom)
15:43 – 15:53		Global genomic data collection and harnessing the crowd to analyse data Speaker: Philip Fowler (United Kingdom)
15:53 – 16:03		What's in a repository? Opportunities and challenges of working with published genomic data Speaker: Maha Farhat (United States)
16:03 – 16:33		Roundtable discussion
16:45 – 17:30	TBS-08	TB data in a globalized world – Oral Abstracts Chair: Mayara Lisboa Bastos (Brazil) and Kobto Koura (France)
16:45 – 16:48		Introduction
16:48 – 16:56		Subclinical tuberculosis: assessment of burden and presentation using prevalence survey data from eight countries Oral Presenter: Logan Stuck (Utrecht, Netherlands)
16:56 – 17:04		Deep learning allows for quantitative prediction of antibiotic resistance in Mycobacterium tuberculosis Oral Presenter: Sanjana Kulkarni (Boston, United States)
17:04 – 17:12		A multi-country assessment of digital lung sound analysis to predict pulmonary tuberculosis Oral Presenter: Byron Reeve (Cape Town, South Africa)
17:12 – 17:20		Continuous cough monitoring with an AI-enabled mobile phone app for TB evaluation and treatment response Oral Presenter: Lucy Asege (Kampala, Uganda)

TBSCIENCE 2022

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17:20 – 17:30

Live Q&A

17:40 – 19:03

TBS-09

How to catalyse data sharing for the common good?

Chair: Christian Lienhard (France)

17:40 – 17:43

Introduction

17:43 – 18:03

Opportunities lost: what are we missing when we don't share?

Speaker: Vasee Moorthy (Switzerland)

18:03 – 18:13

FAIR data principles: Current guidance on data access

Speaker: Simon Hodson (France)

18:13 – 18:23

The responsibilities of journals to facilitate data sharing

Speaker: Zoë Mullan (United Kingdom)

18:23 – 18:33

Data sharing: building beyond the sum of the parts in a funder's portfolio

Speaker: Debra Hanna (United States)

18:33 – 18:43

Overcoming the obstacles to data sharing: what needs to be done?

Speaker: Robert Terry (Switzerland)

18:43 – 19:03

Roundtable discussion

Friday, November 11, 2022

Theme: TB and respiratory microbiota

This session will place TB in the context of current knowledge about respiratory microbiota and the eubiotic conditions needed to maintain health and prevent the invasion of pathogens. It will consider the impact of TB treatment on dysbiosis and on selection of antimicrobial resistance, including how treatment of refractory TB with mycobacteriophages might minimize these effects. The impact of the TB infection itself on respiratory microbiota and post-TB pathologies will also be discussed.

Channel 7 - TBScience

15:00 – 16:25

TBS-10

How does the microbiota work?

Chair: Daniela Cirillo (Italy) and Richard Anthony (Netherlands)

15:00 – 15:05

Introduction

15:05 – 15:25

Tuberculosis and respiratory microbiota

Speaker: Setegn Eshetie (Ethiopia)

15:25 – 15:45

Gut microbiota and immunological interaction with respiratory systems

Speaker: Vanni Bucci (United States)

15:45 – 16:05

Bacteriophage treatment of mycobacteria

Speaker: Andreas H. Diacon (South Africa)

TBSCIENCE 2022

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16:05 – 16:25

Live Q&A and discussion

16:35 – 17:20

TBS-11

TB and respiratory microbiota – Oral Abstracts

Chair: Satoshi Mitarai (Japan) and Anete Trajman (Brazil)

16:35 – 16:38

Introduction

16:38 – 16:48

Sputum and gut microbiota perturbations persist one year after tuberculosis treatment

Oral Presenter: Charissa Naidoo (Cape Town, South Africa)

16:48 – 16:58

Nasopharynx microbiome composition in household contacts upon Mycobacterium tuberculosis exposure

Oral Presenter: Cinthya Ruiz-Tagle (Santiago, Chile)

16:58 – 17:08

Volatile organic compounds in the headspace of sputum samples as biomarkers for culture-independent identification of Nontuberculous mycobacteria

Oral Presenter: Ahmad Mani-Varnosfaderani (Vancouver, Canada)

17:08 – 17:20

Live Q&A

17:30 – 18:45

TBS-12

Do we need to keep microbiota in mind?

Chair: Grant Theron (South Africa) and Hiroki Ando (Japan)

17:30 – 17:35

Introduction

17:35 – 17:45

Microbiota and inflammation

Speaker: Antje Blumenthal (Australia)

17:45 – 17:55

Roles of short chain fatty acids in immunity control

Speaker: John Osei Sekyere (South Africa)

17:55 – 18:05

Mycobacteriophage and clinical use

Speaker: Muhammad Shahzad (Pakistan)

18:05 – 18:15

Gut microbiota and antibiotic property

Speaker: Dereje Abate Negatu (United States)

18:15 – 18:45

Roundtable discussion

TBScience 2022 programme will also include multiple E-POSTERS displayed throughout the conference and beyond (on demand).