



LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



10th Advanced Course on Diagnostics (ACDx)

Les Pensières Center for Global Health, Annecy
15th – 20th September 2019

PROGRAMME

OVERALL LEARNING OBJECTIVES

ACDx advocates for the value of diagnostics in global health and builds capacity for critical decision making on diagnostics in the developing world through partnerships and networks.

The 2019 ACDx will have a special emphasis on **Access to Quality-assured Diagnostics, especially related to antimicrobial resistance and epidemic preparedness.**

FORMATS FOR LEARNING

Lectures, expert panels, roundtables, debates, breakout sessions, technology forum with demonstrations and open discussions.

ACKNOWLEDGMENT

We are very grateful to the following organizations for their support in providing fellowships



We are very grateful to the following organizations for their unrestricted educational grants



Course Directors

- Rosanna Peeling, London School of Hygiene & Tropical Medicine (LSHTM)
- François-Xavier Babin, Mérieux Foundation

Steering Committee

- Heather Alexander, US CDC
- Sandra Angèle, Mérieux Foundation
- François-Xavier Babin, Mérieux Foundation
- Catharina Boehme, FIND
- Alex Costa, UNICEF
- Benjamin Djoudalbaye, Africa CDC
- Béatrice Halpaap, WHO TDR
- Andrew Hollands, DTRA
- Nadia Khelef, Institut Pasteur
- Francis Moussy, WHO
- Carl Newman, DTRA
- Bénédicte Pansier, Mérieux Foundation
- Rosanna Peeling, LSHTM
- Trevor Peter, CHAI

Core Faculty

- François-Xavier Babin, Mérieux Foundation
- Xavier Berthet, x + b.i Consulting
- Catharina Boehme, FIND
- Sarabjit Chadha, FIND
- Geoffrey Chipungu, UNICEF
- Jennifer Cohn, EGPAF
- James Cummings, ICON GPHS
- Valérie D'Acremont, Swiss TPH
- Mark Davis, Mologic
- Cristian De Battisti, FAO
- Jean-François De Lavison, Ahimsa Fund
- Virginie Dolmazon, WHO
- Anthony Emeribe, University of Calabar
- Clément Fiaux, bioMérieux
- Renuka Gadde, BD
- Françoise Gay-Andrieu, bioMérieux
- Herman Goossens, University of Antwerp
- Emmanuelle Gormally, ESTBB
- Carlos Gouvea, ALADDIV
- Natacha Griffith, US CDC
- Béatrice Halpaap, WHO TDR
- Jackson Hungu, CHAI
- Philippe Jacon, Cepheid
- Pradeep Kakkattil, UNAIDS
- Nadia Khelef, Institut Pasteur
- Mary Lancaster, DTRA
- Frédéric Lemé, Cepheid
- David Mabey, LSHTM
- Giovanni Magni, BioRad
- Yuka Manabe, Johns Hopkins University
- Deusdedit Mubangizi, WHO
- Maurine Murtagh, the Murtagh Group

- Josette Najjar, Mérieux Foundation
- Nqobile Ndlovu, ASLM
- Piero Olliaro, FIND
- Ademola Osigbesan, UNITAID
- Linda Oskam, DATOS
- Rosanna Peeling, LSHTM
- Mark Perkins, WHO
- Olga Perovic, NICD
- Trevor Peter, CHAI
- Valentina Picot, Mérieux Foundation
- Antoine Pierson, IQLS
- Christophe Przybyla, bioMérieux
- Sébastien Quesney, Institut Pasteur
- Saïda Rasoanandrasana, CHU Antananarivo
- Jesús Rueda Rodríguez, Medtech
- Nuphar Rozen-Adler, BD
- Jean Sakandé, Mérieux Foundation
- Amadou Sall, Institut Pasteur Sénégal
- Edsel Maurice Salvana, NIH
- Sadia Shakoor, WHO
- Nicolas Steenkeste, Mérieux Foundation
- Isabelle Tongio, bioMérieux

Organizing Committee

- Sandra Angèle, Mérieux Foundation
- Laure Meyssirel, Les Pensières Center for Global Health
- Bénédicte Pansier, Mérieux Foundation

DAY 1: SUNDAY 15th SEPTEMBER 13:30 – 18:20

Opening of ACDx 2019

12:00 – 13:30 **Registration and lunch**

13:30 – 14:00 **Welcome to ACDx & introduction**
Alain Mérieux, Pr. Rosanna Peeling & Bénédicte Pansier

Session 1: Role and value of diagnostics in Global Health

Co-Chairs: Pr Rosanna Peeling, LSHTM and Dr James Cummings, ICON GPHS

Objectives:

- Learn about the role of diagnostics in global health
- Learn about the use of diagnostics in clinical decision support and for disease control and elimination

14.00 – 14.45 **LECTURES:**
The Value of Diagnostics in Global Health
Rosanna Peeling, LSHTM
Role of diagnostics in clinical decision support
Valerie D'Acremont, Swiss TPH
Role of diagnostics in disease control and elimination
David Mabey, LSHTM

14:45 – 15:00 **Q&A**

15:00 – 15:40 **Celebrating 10 years of progress made in the field of diagnostics – Panel Discussion**
Diagnostics in outbreaks of Ebola and Zika
Amadou Sall, Institut Pasteur of Dakar
FIND: a decade of transforming disease management
Catharina Boehme, FIND
The Mérieux Foundation and its networks worldwide
Francois-Xavier Babin, Mérieux Foundation
Latin America IVD Alliance: bringing stakeholders together
Carlos Gouvea, ALADDIV

15:40 – 16:10 Coffee Break

16:10 – 16:30 **EU ValueDx project: setting the scene for public-private collaboration in diagnostics**
Herman Goossens, University of Antwerp

16:30 – 17:40 **Round Table on critical issues for diagnostics in the next 10 years:**
Issue 1: access to specimens
Issue 2: duplication in clinical performance studies
Issue 3: regulatory harmonization
Issue 4: policy development
These issues are to be discussed by both industry and public sectors: Herman Goossens, Catharina Boehme, Carlos Gouvea, Amadou Sall, Françoise Gay-Andrieu, Philippe Jacon

17:40 – 18:10 **Panel Discussion: novel approaches for co-development of diagnostics with drugs and vaccines**
- James Cummings, ICON GPHS
- Catharina Boehme, FIND

18:10 – 18:20 **End of day 1 - Session 1 evaluation**

18:20 – 19:00 Preparation and viewing of informal biographies

19:00 Cocktail dinner



DAY 2: MONDAY 16th SEPTEMBER

09:00 – 12:30

Session 2: Diagnostic system strengthening to improve access

Co-Chairs: Dr François-Xavier Babin, Mérieux Foundation and Dr Amadou Sall, Institut Pasteur of Dakar

Objectives:

- Review the laboratory techniques and their use in a tiered laboratory system
- Review the transversal aspects of building a tiered laboratory system

09:00 – 09:20 **Lecture:**
Overview of the laboratory techniques available in routine medical laboratories
François-Xavier Babin, Mérieux Foundation

09:20 – 09:40 **Strategic decision making: considerations to scale up/down diagnostic interventions**

- Laboratory tiered network
- Collect and transfer of samples
- Data management, transmission and analysis

Antoine Pierson, IQLS

09:40 – 09:55 **Madagascar and the AMR surveillance network**
Saida Rasoanandrasana, MOH Madagascar

09:55 – 10:10 **Laboratory Mapping (sharing experience from the field)**
Nicolas Steenkeste, Mérieux Foundation

10:10 – 10:40 Coffee Break

10:40 – 11:00 **Biosecurity/biosafety**
Natascha Griffith, CDC

11:00 – 11:20 **Rating a laboratory national network: Labnet Scorecard**
Nqobile Ndlovu, ASLM

11:20 – 11:40 **Leadership and governance: building a National Laboratory Policy and Strategic Plan**
- Presentation of the Global Laboratory Leadership Program (A Fellowship for the Development of Laboratory Leaders)
Virginie Dolmazon, WHO

11:40 – 12:00 **Laboratory data systems**
Jackson Hungu, CHAI

12:00 – 12:20 **Developing best practice for biobanking**
Emmanuelle Gormally, ESTBB

12:20 – 12:30 **Session 2 evaluation**

12:30 Lunch

14:00 – 17:30

Session 3: Diagnostic system sustainability - Partnerships and networks

Co-Chairs: Dr Geoffrey Chipungu (UNICEF) and Dr Mary Lancaster (DTRA)

Objectives:

- Explore options for public & private partnerships to build sustainable diagnostic systems to meet public health needs
- Learn about development and sustainability of laboratory systems
- Learn about partners who need to work together to increase access and to communicate through networks, websites and other opportunities

14:00 – 14:15 **Public-Private Partnerships and sustainable laboratory systems**

Lab for Life

Renuka Gadde, BD (remotely)

14:15 – 14:30 **Uganda's Infectious Disease Institute**

Yuka Manabe, IDI, Uganda

14:30 – 14:45 **TB Lab Partnerships**

Philippe Jacon, Cepheid

14:45 – 15:00 **Debate on Public Private Partnerships**

15:00 – 15:15 **Key considerations for sustainability of laboratory systems**

Contribution of Resaolab Network in the construction of an integrated disease surveillance system in West Africa: the CSE Approach

Jean Sakandé, Mérieux Foundation

15:15 – 15:30 **All-inclusive pricing experience**

Trevor Peter, CHAI

15:30 – 16:00 Coffee Break

16:00 – 16:15 **Examples/lessons learned from existing networks**

Kenya Zoonotic Disease Unit

David Mwangangi, Ministry of Agriculture, Kenya

16:15 – 16:30 **Progress in Development of a Laboratory Network in Cambodia**

Robert Martin, Diagnostic Microbiology Development Program (DMDP)

16:30 – 16:45 **Institut Pasteur International Network**

Nadia Khelef, Institut Pasteur

16:45 – 17:00 **Examples of laboratory networks from course participants**

17:00 – 17:30 **General Discussion on Sustainability, Partnerships and Networks for diagnostics**

Moderated by Mary & Geoffrey (chairs)

17:30 – 17:45 **End of day 2 - Session 3 evaluation**

19:00 Dinner

DAY 3: TUESDAY 17th SEPTEMBER

09:00 – 12:30

Session 4: WHO Essential Diagnostics List (EDL) and evaluation of test performance

Co-Chairs: Dr Sadia Shakoor (WHO) and Dr Catharina Boehme (FIND)

Objectives:

- Learn about evaluation of test performance
- Know the WHO Essential Diagnostics List (EDL)
- Review the state-of-the-art diagnostics for major infectious diseases

09:00 – 09:30

Lectures:

Basic performance characteristics of a diagnostic test

Sensitivity, specificity, repeatability and cross-reactivity
Rosanna Peeling, LSHTM

Evaluation of test performance

Types and objectives of performance evaluations along the lifecycle of the product
Rosanna Peeling, LSHTM, & Catharina Boehme, FIND

9:30 – 10:00

ROUNDTABLE

Country perspective on local product evaluation and implementation:

Test evaluations and implementation: Catharina Boehme, FIND

ASLM perspective on local evaluations and implementation: Nqobile Ndlovu, ASLM

Early Infant HIV Diagnostic evaluation and implementation: Rosanna Peeling, LSHTM

TB diagnostics in Africa: Yuka Manabe, IDI, Uganda

10:00 – 10:30

Coffee Break

10:30 – 11:00

WHO Model List of *In Vitro* Diagnostics

- Objectives of the EDL
 - Process for development and update
 - Implementation plan
 - Link with other WHO initiatives including primary health care, universal health coverage
- Sadia Shakoor, WHO

11:00 – 11:30

ROUNDTABLE on the potential impact of the EDL on access to diagnostics

- Example of a country implementation process
- SAGE IVD member perspective: Tony Emeribe, Nigeria
- Industry: Jesús Rueda Rodríguez, Medtech

11:30 – 12:20

State-of-the-art diagnostics for major infectious diseases: Group discussions:

HIV and STIs: Dan Wu

Diseases elimination: Hepatitis B and C, elimination of Mother-to-Child transmission of HIV-Syphilis

Rosanna Peeling, LSHTM

TB: Yuka Manabe, IDI, Uganda

Diseases of epidemic potential: Joe Tucker, LSHTM, & James Cummings, ICON GPHS

12:20 – 12:30

Session 4 evaluation

12:30

Lunch

14:00 – 18:10

Session 5: Access to quality-assured diagnostics

Co-Chairs: Dr Trevor Peter (CHAI) and Dr Yuka Manabe (IDI, Uganda)

Objectives:

- Learn about access to quality-assured diagnostics for public health programmes
- Learn about policy issues in access and share best practices

14:00 – 14:15	Current Trends in Diagnostics Access Complementary use of laboratory and point-of-care (POC) testing Jennifer Cohn, EGPAF
14:15 – 14:45	How can we improve access? <ul style="list-style-type: none">- Barriers to access in countries identified by participants from countries- Addressing the barriers – contributions from faculty and industry
14:45 – 15:00	Procurement optimization Ademola Osigbesan, UNITAID
15:00 – 15:15	Progress on accelerating access to quality-assured diagnostics in Latin America Carlos Gouvea, ALADDIV
15:15 – 15:30	Quality assurance for POC Testing Rosanna Peeling, LSHTM
15:30 – 15:45	Q&A
15:45 – 16:15	Coffee Break
16:15 – 16:30	Priority Initiatives in Diagnostics Quality WHO Pre-qualification and the Collaborative Regulatory Procedure for Diagnostics Deusdedit Mubangizi, WHO
16:30 – 16:45	Moving towards laboratory accreditation: SLIPTA and SLMTA Nqobile Ndlovu, ASLM
16:45 – 17:15	Laboratory Quality Management Linda Oskam, DATOS MOOC on Quality Nicolas Steenkeste, Mérieux Foundation
17:15 – 17:30	Post-Market Surveillance and the Global Diagnostics Working Group Deusdedit Mubangizi, WHO
17:30 – 17:45	Best Practice in the Distribution of diagnostics Joseph Kitukulu, Medical Stores Department, Tanzania
17:45 – 18:00	Q&A
18:00 – 18:10	End of day 3 - Session 5 evaluation
19:00	Dinner

DAY 4: WEDNESDAY 18th SEPTEMBER – INNOVATION DAY

08:30 – 13:00

Session 6: Innovation in practice and research

Co-Chairs: Dr Béatrice Halpaap (TDR) and Dr Sébastien Quesney (Institut Pasteur)

Objectives:

- Review the new technologies in the pipeline
- Understand the challenges faced by test developers and suggest how to accelerate access to quality-assured diagnostics
- Social innovation as perspective for Global Health and access to diagnostics

08:30 – 09:00 **Last miles to make diagnostics available to those who need it most**
- What does innovation mean?
- Examples of diaTROPix and SIHI
Beatrice Halpaap, WHO-TDR; Sebastien Quesney, Institut Pasteur and Amadou Sall, Institut Pasteur Dakar

09:00 – 09:45 **ROUNDTABLE: How to accelerate access to quality-assured diagnostics**
(Facilitator: Sebastien Quesney)
- Mark Davis, Mologic
- Giovanni Magni, BioRad
- Isabelle Tongio, BioMérieux
- Philippe Jacon, Cepheid
- Scott Barnum, CNine Biosolutions
- Xavier Berthet, Entrepreneur & Business Developer

09:45 – 10:30 **ROUNDTABLE: Social innovations to bring diagnosis to all and reach the ‘last mile’** (Facilitators: Beatrice Halpaap and Joe Tucker)

- Rosanna Peeling: social innovations to enhance access to diagnostics
- Dan Wu: Pay-it-Forward: disseminating kindness to enhance diagnosis
- Pradeep Kakkattil, UNAIDS: the Health Innovation Exchange
- Jean-François de Lavison, Ahimsa Partners

Questions and answers: 15 min

10:30 – 11:00 Coffee Break

11:00 – 12:50 **WORKSHOPS**
- Workshop on New Technologies with industries (film, poster, demo)

- Workshop on Social Innovation to advance diagnosis and leave no one behind
SIHI Film (15 min), group brainstorm on how social innovation can enhance your work (20 min), pitch innovation in Dragon’s Den style for jury selection (15 min). There will be prizes for the groups with the best pitch.

12:50 – 13:00 **End of day 4 - Session 6 evaluation**

13:00 Lunch

Afternoon free for networking, tutorials and special sessions

19:00 Dinner



DAY 5: THURSDAY 19th SEPTEMBER

09:00 – 12:30

Session 7: Access to diagnostics for epidemic preparedness in the context of One Health

Co-Chairs: Dr Mark Perkins (WHO) and Dr Edsel Maurice Salvana (NIH, Philippines)

Objectives:

- Review infectious diseases with epidemic potential and their diagnostics
- Understand the challenges of access to diagnostics in outbreak situations

09:00 – 09:15

Update on Ebola outbreaks

Amadou Sall, Institut Pasteur of Dakar

09:15 – 09:30

Dengue outbreak in Philippines

Edsel Maurice Salvana, NIH, Philippines

09:30 – 10:00

Outbreaks in refugees populations

- Access to diagnostics through operational research in conflict and crises setting
Josette Najjar, Mérieux Foundation

- Study on lower acute respiratory infections in Rohingya refugee camps to improve and adapt patient care in a humanitarian crisis
Valentina Picot, Mérieux Foundation

10:00 – 10:15

Q&A

10:15 – 10:45

Coffee Break

10:45 – 11:15

Critical role of diagnostics in outbreak preparedness and management

Piero Olliaro, FIND

- WHO Blueprint priority diseases which have important unmet diagnostic needs
- FIND strategy for diagnostics preparedness & outbreak response (global forum similar to CEPI/Gavi for vaccines, technical solutions, response speed and market sustainability)

11:15 – 11:30

Example of H5N1 outbreak in 2016 in Ouest and Central Africa

Cristian De Battisti, FAO

11:30 – 11:45

Open Discussion on health risks at the human-animal-ecosystem interfaces and what can be done about them?

11:45 – 12:20

ROUNDTABLE

Access to diagnostic tests during outbreaks: is stockpiling the answer?

12:20 – 12:30

Session 7 evaluation

12:30

Lunch



14:00 – 17:45

Session 8: Access to diagnostics for AMR

Co-Chairs: Dr Sebastien Quesney (Institut Pasteur) and Dr Piero Olliario (FIND)

Objectives:

- Identify critical diagnostics and market solutions to address AMR
- Understand the barriers faced by diagnostic test developers
- Reflect on policies to overcome barriers faced by AMR diagnostic test developers

14:00 – 14:15 **General introduction**
Piero Olliario, FIND
Joanna Wiecek, Wellcome Trust

14:15 – 14:30 **AMR Diagnostic Technology Landscape**
Maurine Murtagh (Consultant, Diagnostics for Global Health)

14:30 – 14:40 **MOOC on the Role of Diagnostics in the AMR Response**
Rosanna Peeling, LSHTM

14:40 – 15:00 **Simulation exercise using role play to show complexities of access to diagnostic for AMR** - Animated by Rosanna Peeling, Piero Olliario and Sebastien Quesney

15:00 – 15:30 **Country Needs**
Sarabjit S Chadha, FIND India (10 min)
Views from country perspective: 3 - 4 Participants from countries (5 - 7 min)
Open discussion and questions (5 -10 min)
Moderation Sebastien Quesney

15:30 – 16:00 **Coffee Break**

16:00 – 16:30 **Understand the barriers faced by diagnostic test developers – Round Table**
Clément Fiaux, BioMérieux
Amadou Sall, Institut Pasteur of Dakar
Mark Davis, Mologic
Carolyn Hall, Abbott

16:30 – 17:00 **Reflect on policies to overcome barriers faced by AMR diagnostic test developers**
Olga Perovic, NICD
1-2 Participant(s) from countries: 5-7 min views for each speaker
Moderation: Piero Olliario

17:00 – 17:30 **OPEN DISCUSSION**
With all panel members and the participants in the room: How to link 3 components?
- Moderation by Piero Olliario and Sebastien Quesney
- Questions to be prepared with speakers and participants

17:30 – 17:45 **End of day 5 - Session 8 evaluation**

18:00 **Departure for castle tour – Chateau de Menthon**

20:00 **Gala Dinner to celebrate the 10th anniversary of the Course**



DAY 6: FRIDAY 20th SEPTEMBER

09:00 – 12:30

Session 9: Diagnostics for Universal Health Care and global health security

Co-Chairs: Pr Rosanna Peeling, LSHTM and Dr Francois-Xavier Babin, Mérieux Foundation

Objectives:

- Review and summarize all access issues in the context of Universal Health Care, clinical medicine, AMR and epidemic preparedness
- Review of the week

09:00 – 09:15	Sustainable Development Goals: Diagnostics systems that leave no one behind – overview <ul style="list-style-type: none">- Integrating technological and social innovation for diagnostics- Diagnostics to strengthen health systems- Diagnostics for epidemic preparedness- Diagnostics to combat AMR- Network and Partnerships Rosanna Peeling, LSHTM
09:15 – 09:30	All participants prepare post-it notes on their take home messages on 3 of the above topics they find most useful
09:30 – 09:45	No Universal Health Care without Diagnostics Sarabjit S Chadha, FIND
09:45 – 10:15	OPEN DISCUSSION on 10th ACDx This week in review
10:15 – 10:30	Session 9 evaluation & Global evaluation
10:30 – 11:30	Coffee Break and diploma ceremony
11:30 – 11:45	Summary of ACDx participants' take-home messages on each topic (5 participants selected to present, 5 min each)
11:45 – 12:15	Synthesis of take home messages Francois-Xavier Babin, Mérieux Foundation
12:15 – 12:30	Summary & closure Rosanna Peeling, LSHTM, and François-Xavier Babin, Mérieux Foundation
12:30 – 14:00	Lunch

End of ACDx 2019

