



Technical Program

**All indicated times in the program are
Greenwich Mean Time (GMT)/Universal Time Coordinated (UTC)**

The Executive Committee reserves the right to amend the program if necessary.

Monday, 12 July

All times are Greenwich Mean Time (GMT)/Universal Time Coordinated (UTC)

Welcome Address

14:00 - 14:15

Global Health Workshop 2021 Conference Chairs

Samantha Byrnes, *Amazon Diagnostics, USA*

Jacqueline Linnes, *Purdue University, USA*

Kevin Nichols, *Amazon Diagnostics, USA*

Keynote Presentation I

14:15 - 14:45

MANUFACTURING POINT-OF-CARE DIAGNOSTICS IN A RESOURCE LIMITED COUNTRY, CHALLENGES AND PROSPECTS

Laud Anthony W. Basing

Incas Diagnostics, GHANA

Lightning Talks Session 1

14:45 - 14:55

CAPILLARY AND CENTRIFUGAL FLUIDIC DEVICE ENABLING SIMPLIFIED EXECUTION OF RAPID ANTIMICROBIAL SUSCEPTIBILITY TEST

Taegeun Lim¹, Jungil Choi², and Sunghoon Kwon¹

¹Seoul National University, KOREA and ²Kookmin University, KOREA

14:55 - 15:05

AN EXTRACTION-FREE RNA TEST FOR SARS-CoV-2 ON A PAPER-BASED PLATFORM

Navaporn (Amy) Sritong, Hailey Mira Szadowski, Ashlee J. Colbert, Karin F.K. Ejendal,

and Jacqueline C. Linnes

Purdue University, USA

15:05 - 15:15

HOME DIAGNOSTIC TESTING: BEFORE, DURING AND AFTER THE ERA OF COVID-19

Paul Yager^{1,2}, Steven Bennett¹, Erin Heiniger¹, Shichu Huang¹, Kevin Jiang¹, Sujatha Kumar¹, Kamal Shah¹, and Alexander Yan¹

¹University of Washington, USA and ²UbiDX, Inc., USA

15:15 - 15:30

Break

Keynote Presentation II

15:30 - 16:00

THE ROLE OF INNOVATIVE TECHNOLOGIES AS PART OF STRATEGY TO ELIMINATE CERVICAL CANCER IN LMICs

Mauricio Maza

Basic Health International, EL SALVADOR

Panel Presentation 1
Women's Cervical Cancer Screening

16:00 - 16:30

Bridget Lumbwe
UNC-Global Projects, LLC, ZAMBIA

Natalia Rodriguez
Purdue University, USA

Valerie A. Paz-Soldan
Tulane University, USA

Celina Schocken
Women's Health and Strategy Consultant, USA

16:30 - 16:45 Break

Poster Session 1
16:45 - 17:30

a - Application-Focused Diagnostics for Global Health

P1.102a DETECTION OF SARS-CoV-2 USING AN IMMISCIBLE PHASE MICROFLUIDIC DEVICE

Pablo Rodriguez-Mateos¹, Bongkot Ngamsom¹, Cheryl Walter¹, Charlotte E. Dyer¹,
Jesse Gitaka², Alexander Iles¹, and Nicole Pamme¹
¹University of Hull, UK and ²Mount Kenya University, KENYA

P1.103a MICROFLUIDIC-BASED DETECTION OF AML-SPECIFIC BIOMARKERS USING THE EXAMPLE OF PROMYELOCYTE LEUKEMIA

Benedikt Emde¹, Heike Kreher², Nicole Bäumer³, Sebastian Bäumer³, Dominique Bouwes²,
and Lara Tickenbrock¹
*¹Hamm-Lippstadt University of Applied Science, GERMANY, ²Micronit GmbH, GERMANY,
and ³University of Muenster, GERMANY*

P1.104a REVERSE TRANSCRIPTASE CHAIN TERMINATION (RESTRIC) ASSAYS FOR SELECTIVE MEASUREMENT OF NUCLEOTIDE ANALOGS USED IN HUMAN IMMUNODEFICIENCY VIRUS (HIV) PREVENTION

Ayokunle O. Olanrewaju, Benjamin P. Sullivan, Alicia H. Gim, Andrew T. Bender,
Paul K. Drain, and Jonathan D. Posner
University of Washington, USA

b - Integrated Microfluidic Platforms

P1.105b A PORTABLE WET SCRUBBER FOR AEROSOL CAPTURE

Ulri N. Lee¹, Tammi L. van Neel¹, Fang Yun Lim¹, Jian Wei Khor¹, Jiayang He¹,
Ravi S. Vaddi¹, Jean Berthier¹, Igor V. Novosselov¹, Erwin Berthier¹,
and Ashleigh B. Theberge^{1,2}
¹University of Washington, USA and ²University of Washington School of Medicine, USA

P1.106b EFFECT OF MICROCHANNEL GEOMETRY AND LINKERS ON PROTEIN IMMOBILIZATION

Senjuti Chakraborty, Siddhant Jaitpal, Sourav Acharya, and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

- P1.107b NOVEL DEEP GENOME MINING STRATEGY FOR HIGHLY SENSITIVE DIAGNOSIS OF *NEISSERIA GONORRHOEA* AND *CHLAMYDIA TRACHOMATIS***
Clement Shiluli¹, Michael Maina¹, Lolabattu Raju², Shwetha Kamath², and Jesse Gitaka¹
¹*Mount Kenya University, KENYA* and ²*Jigsaw Bio Solutions Private Limited, INDIA*
- P1.108b PAPER-ORIGAMI DEVICE FOR RAPID DIAGNOSIS AND TESTING SEWAGE FOR EARLY WARNING OF PANDEMIC**
Zhugen Yang
Cranfield University, UK
- P1.109b RAPID TEST COMBINING A QUANTITATIVE G6PD ASSAY AND A MEASUREMENT OF HEMOGLOBIN CONCENTRATION ON A SINGLE CAPILLARY-DRIVEN MICROFLUIDIC CHIP**
Marco Rocca^{1,2}, Yuksel Temiz¹, Marie L. Salva^{1,2}, Samuel Castonguay³, Thomas Gervais³, Christof M. Niemeyer², and Emmanuel Delamarche¹
¹*IBM Research Europe, SWITZERLAND*, ²*Karlsruhe Institute of Technology (KIT), GERMANY*, and ³*École Polytechnique de Montréal (EPM), CANADA*
- P1.110b UNDERSTANDING THE EFFECT OF UNREACTED PRIMERS FOR DESIGNING A NUCLEIC ACID LATERAL FLOW ASSAY USING TRANSPORT-REACTION MODEL**
Priyanka Agarwal and Bhushan J. Toley
Indian Institute of Science, Bangalore, INDIA

Keynote Presentation III

17:30 - 18:00

POINT OF CARE DIAGNOSTICS TO IMPROVE MATERNAL AND CHILD HEALTH IN LOW-RESOURCE SETTINGS

Rebecca Richards-Kortum

Rice 360° Institute for Global Health, USA

Closing Remarks for the Day

18:00 - 18:15

Global Health Workshop 2021 Conference Chairs

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Kevin Nichols, *Amazon Diagnostics, USA*

Tuesday, 13 July

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Welcome Address

11:00 - 11:15

Global Health Workshop 2021 Conference Chairs

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Kevin Nichols, *Amazon Diagnostics, USA*

Keynote Presentation IV

11:15 - 11:45

CERVICAL CANCER SCREENING IN LOW MIDDLE INCOME COUNTRIES: CHALLENGES AND OPPORTUNITIES

Richard M.K. Adanu

University of Ghana School of Public Health, GHANA

Lightning Talks Session 2

11:45 - 11:55

CONTRIBUTING TO BIOMEDICAL EDUCATION AND TRAINING FOR CAPACITY BUILDING AND HEALTH INNOVATION IN AFRICA

Kennedy O. Okeyo¹, Eddy Odari², Lucy Ochola³, and J. Paul Robinson⁴

¹*Kyoto University, JAPAN*, ²*Jomo Kenyatta University of Agriculture and Technology, KENYA*,

³*Institute of Primate Research, KENYA*, and ⁴*Purdue University, USA*

11:55 - 12:05

A SINGLE-STEP CRISPR-CAS-ASSISTED SARS-CoV-2 DETECTION FROM CLINICAL SAMPLES IN AN INTEGRATED, PORTABLE DEVICE

Fan-En Chen, Pei-Wei Lee, Alexander Y. Trick, Joon Soo Park, Liben Chen, Kushagra Shah, Heba Mostafa, Karen C. Carroll, Kuangwen Hsieh, and Tza-Huei Wang

Johns Hopkins University, USA

12:05 - 12:20

Break

Poster Session 2

12:20 - 13:05

a - Application-Focused Diagnostics for Global Health

P2.201a A MULTIPLEX TAQMAN PCR ASSAY FOR DETECTION MRSA CAPTURED FROM WHOLE BLOOD

Sushama Agarwalla¹, Khoi Seng Lok², Yee Yung Tse², Ruige Wu², Zhiping Wang², and Suhanya Duraiswamy^{1,2}

¹*Indian Institute of Technology, Hyderabad, INDIA* and

²*Agency for Science, Technology and Research (A*STAR), SINGAPORE*

P2.202a AFFORDABLE LABEL-FREE ELECTROCHEMICAL IMMUNOSENSOR FOR DETECTION OF BACTERIA IN DRINKING WATER

Ana F.M.D. da Costa, Himayasri R. Lekkala, Loic Coudron, Christabel Tan, Ian Munro, Daniel McCluskey, Ian Johnston, and Nikolay Dimov
University of Hertfordshire, UK

P2.203a DEVELOPMENT OF A RAPID, ON-SITE DIAGNOSTIC ASSAY FOR BORDETELLA SPP

Killian C. O'Connell, Alvand K. Moini, Erik L. Hewlett, Melinda D. Poulter, and James P. Landers
University of Virginia, USA

b - Integrated Microfluidic Platforms

P2.204b A MICROFLUIDIC PLATFORM TO STUDY BACTERIA UNDER CONFINEMENT

Md. Ramiz Raza and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

P2.205b A PAPER-BASED ANALYTICAL DEVICE COUPLED WITH A SPECTRUM-BASED OPTICAL READER FOR DIFFERENTIATING THE INFLUENZA SEVERITY IN CHILDREN

Sheng-Wen Lin¹, Ching-Fen Shen², and Chao-Min Cheng¹
¹*National Tsing Hua University, TAIWAN and*
²*National Cheng Kung University Hospital, TAIWAN*

P2.206b ASSESSING THE PERFORMANCE AND IMPLEMENTATION CHARACTERISTICS OF RAPID POINT OF CARE SARS-CoV-2 ANTIGEN TESTING

Eva Muthamia¹, Samuel Mungai¹, Mary Mungai², Sara Suliman³, Gama Bandawe⁴, Firdausi Qadri⁵, Zannat Kawser⁵, Shahin Lockman³, Louise Ivers³, David W. Walt³, Matilu Mwau², and Jesse Gitaka¹
¹*Mount Kenya University, KENYA,* ²*Kenya Medical Research Institute, KENYA,*
³*Harvard University, USA,* ⁴*Malawi University of Science and Technology, MALAWI, and*
⁵*International Centre for Diarrhoeal Disease and Research, BANGLADESH*

P2.207b ENHANCED RELIABILITY AND REPRODUCIBILITY OF AMPLIFICATION IN RAPID CONVECTIVE PCR-BASED NUCLEIC ACID TESTING

MinGin Kim and Victor M. Ugaz
Texas A&M University, USA

P2.208b PROMPT DETECTION OF SEXUALLY TRANSMITTED INFECTIONS AND ANTIMICROBIAL SUSCEPTIBILITY

Alexander Y. Trick¹, Johan H. Melendez², Fan-En Chen¹, Liben Chen¹, and Tza-Huei Wang^{1,2}
¹*Johns Hopkins University, USA and* ²*Johns Hopkins University School of Medicine, USA*

P2.209b QUANTITATIVE ISOTHERMAL AMPLIFICATION ON PAPER MEMBRANES USING NUCLEATION SITE COUNTING

Benjamin P. Sullivan, Andrew T. Bender, Yu-Shan Chou, Coleman D. Martin, Minyung Song, and Jonathan D. Posner
University of Washington, USA

Keynote Presentation V

13:05 - 13:35

EQUITABLE ACCESS TO REASSURED DIAGNOSTICS: SHIFTING THE CENTRE OF GRAVITY OF PRODUCTION TO LMICs

Kevin Land
Mologic, UK

13:35 - 13:50 Break

Panel Presentation 2 TB POC Dx Target Product Profile (TPP)

13:50 - 14:20

Claudia Denkinger
Heidelberg University Hospital, GERMANY

David Dolinger
PhAST, USA

Keynote Presentation VI

14:20 – 14:50

DIAGNOSTIC CHALLENGES IN GLOBAL HEALTH AND LESSONS FROM THE COVID-19 PANDEMIC

Young Hong
Independent Consultant, USA

Award Ceremony and Closing Remarks

14:50 - 15:15

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