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.

Tuesday, 1 August

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

Welcome Address

14:00 - 14:15
Global Health Workshop 2023 Conference Chairs
Samantha Byrnes, *Amazon, USA*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*

Keynote Presentation I

14:15 - 14:45
DIAGNOSTICS IN GLOBAL HEALTH: TIME TO END THE NEGLECT
Madhukar Pai
McGill University, CANADA

Panel 1 – Supply Chain

14:45 - 15:15
Moderator: Madhukar Pai, *McGill University, CANADA*

Michael Campbell, *Clinton Health Access Initiative, Inc. (CHAI), UK*
Mikashmi Kohli, *FIND, SWITZERLAND*
Trevor Peter, *Clinton Health Access Initiative, Inc. (CHAI), USA*
Bhushan Toley, *Papyrus Diagnostics, INDIA and Indian Institute of Science, INDIA*

15:15 - 15:25 Break

Keynote Presentation II

15:25 - 15:55
PAPER-MICROFLUIDIC TOOLS FOR IMPROVING TB CASE FINDING AND AMR DETECTION - NEW IDEAS AND CHALLENGES
Bhushan Toley[1,2]
[1]*Papyrus Diagnostics, INDIA and* [2]*Indian Institute of Science, INDIA*

Lightning Talks – Clinical Applications

15:55 - 16:05

MODIFYING THE CANDYCOLLECT, A LOLLIPOP-INSPIRED SALIVA SAMPLING DEVICE, TO ACT AS A BUILT-IN TIMER FOR ORAL SAMPLING

Ella Bouker[1], Sara Ho[1], Daniel Hatchett[1], Victoria Shinkawa[1], Ingrid Jeacopello[1], Albert Shin[1], Keila Uchimura[1], Xiaojing Su[1], Karen Adams[1], Erwin Berthier[1], Ashleigh Theberge[1], and Sanitta Thongpang[1,2]
[1]University of Washington, USA and [2]Mahidol University, THAILAND

16:05 - 16:15

CANDYCOLLECT: AT-HOME SALIVA SAMPLING FOR RESPIRATORY PATHOGEN CAPTURE

Daniel Hatchett[1], Keila Uchimura[1], Victoria Shinkawa[1], Ingrid Jeacopello[1], Ella Bouker[1], Sara Ho[1], Albert Shin[1], Xiaojing Su[1], Karen Adams[1], Erwin Berthier[1], Ashleigh Theberge[1], and Sanitta Thongpang[2]
[1]University of Washington, USA and [2]Mahidol University, THAILAND

16:15 - 16:25

CLINICAL DISPARITIES IN INFANT ORAL EVALUATION FOR BREASTFEEDING DIAGNOSTICS

Phuong Truong, Erin Walsh, Vanessa Scott, and James Friend
University of California, San Diego, USA

16:25 - 16:35 Break

Poster Session 1
16:35 - 17:20

a - Application-Focused Diagnostics for Global Health

P1.01a A COMPARATIVE STUDY OF CERVICAL SPECIMEN COLLECTION TOOLS FOR POINT-OF-CARE CERVICAL CANCER SCREENING

Sayeh Dowlatshahi and Jacqueline Linnes
Purdue University, USA

P1.02a DETECTION OF Beta-LACTAM ACTIVITY WITH SURFACE-ENHANCED RAMAN SPECTROSCOPY (SERS)

Shannon Hilton and Ian White
University of Maryland, USA

P1.21a THERANOSTIC CONTACT LENS BASED ON CELLULOSE NANOFIBRILS/LEVOFLOXACIN NANOCOMPOSITE FOR OCULAR BACTERIAL INFECTION

Tatiya Siripongpreda, Pear Pongsachareonnont, Rungroj Chanajaree, and Nadnudda Rodthongkum
Chulalongkorn University, THAILAND

b - Development and Design of Microfluidic Platforms for Disease Diagnosis

P1.03b A MICROFLUIDIC PLATFORM TO QUANTIFY SINGLE MICRORNA MOLECULES IN PRIMARY HUMAN SAMPLES AT A SINGLE CELL LEVEL
Vanessa Ho, Jonathan Baker, Keith Willison, Peter Barnes, Louise Donnelly, and David Klug
Imperial College London, UK

P1.04b ACOUSTICALLY EXCITED CHANNEL WALLS FOR MICROBIOLOGICAL APPLICATIONS
Michael Gerlt[1,2], Nino Läubli[1], Peter Ruppen[1], Bradley Nelson[1], Sven Panke[1], and Jürg Dual[1]
[1]ETH Zurich, SWITZERLAND and [2]Lund University, SWEDEN

P1.05b DEVELOPMENT OF A PNA-BASED TWO-COLOUR ABSORPTION PLATFORM FOR PATHOGEN DETECTION
Shailesh Lad[1], Shomdutta Roy[1], Jijo George[1], Himadri Chakraborti[1], Saumitra Lalsare[1], Bikash Barik[1], Arushi Singh[1], Amrutraj Zade[1], Sachee Agrawal[2], Jayanthi Shastri[2], Anirvan Anirvan Chatterjee[1]Apoorva Raman[1], Kantimay Das Gupta[1], Debjani Paul[1], and Kiran Kondabagil[1]
[1]Indian Institute of Technology Bombay, INDIA and
[2]Kasturba Hospital for Infectious Diseases, INDIA

P1.06b HIGH-THROUGHPUT GENERATION OF MONODISPERSE GELLAN HYDROGEL BEADS USING MICROFLUIDIC STEP EMULSIFICATION
Anusri Udhayakumar, Jijo George, Riddha Manna, Shomdutta Roy, Savita Kumari, and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

P1.07b MICROFLUIDIC DIODE VALVES FOR AUTONOMOUS DIAGNOSTIC ASSAYS
Selina Servantes and Venumadhav Korampally
Northern Illinois University, USA

P1.08b PHYSICO-CHEMICAL ACCELERATION ENABLES RAPID CONVECTIVE PCR
MinGin Kim, Vijay Ravisankar, Yassin Hassan, and Victor Ugaz
Texas A&M University, USA

P1.09b SIMPLE DISTANCE-BASED THREAD ANALYTICAL DEVICE INTEGRATED WITH ION IMPRINTED POLYMER FOR ZINC QUANTIFICATION IN HUMAN URINE SAMPLES
Lita Chheang[1,2,3], Kawin Khachornsakkul[1,2], Ruben Del-Rio-Ruiz[1,2], Wenxin Zeng[1,2], Atul Sharma[1,2], Nisakorn Thongkon[3], Tongchai Sriwiriyarat[4], Sudtida Thanasupsin[4,5], and Sameer Sonkusale[1,2]
[1]Tufts University, USA, [2]Nano Lab, USA, [3]King Mongkut's University of Technology Thonburi, THAILAND, [4]Burapha University, THAILAND, and
[5]Chemistry for Green Society and Healthy Living Research Unit, THAILAND

c - Other Diagnostics for Global Health

P1.10c REMODELING OF TRYPSIN-MEDIATED DEADHESION OF CELLS UNDER CONFINEMENT AND FLOW-INDUCED SHEAR IN A MICROFLUIDIC GRADIENT GENERATOR
Senjuti Chakraborty, Shamik Sen, and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

Keynote Presentation III

17:20 - 17:50
TRANSLATION: REACHING OUTSIDE THE LAB AND ENTREPRENEURSHIP
Umut Gurkan
Case Western Reserve University, USA

Closing Remarks for the Day

17:50 - 18:00
Global Health Workshop 2023 Conference Chairs
Samantha Byrnes, *Amazon, USA*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*

Tuesday, 2 August

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

Welcome Address

11:15 - 11:45

Global Health Workshop 2023 Conference Chairs

Samantha Byrnes, *Amazon, USA*

Jacqueline Linnes, *Purdue University, USA*

Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*

Keynote Presentation IV

11:15 - 11:45

SUSTAINABILITY AND EQUITY IN THE GLOBAL HEALTH DIAGNOSTIC SPACE: THE ELEPHANTS IN THE ROOM

Maiwenn Kersuady-Kerhoas

Heriot-Watt University, UK

Lightning Talks – Devices and Technologies

11:45 - 11:55

A PORTABLE LAB-ON-A-DISC PLATFORM FOR CONTINUOUS HANDLING OF A WIDE RANGE OF SAMPLE VOLUMES

Sourav Acharya, Jasleen Chhabra, Soumyo Mukherji, and Debjani Paul

Indian Institute of Technology Bombay, INDIA

11:55 - 12:05

POINT-OF-CARE DIGITAL CELLULAR DIAGNOSIS FOR GLOBAL HEALTH

Hyungsoon Im[1], Jouha Min[1,2], Lip Ket Chin[1,3], Dongyoung Lee[4], Hakho Lee[1], and Ralph Weissleder[1,5]

[1]Massachusetts General Hospital, USA, [2]University of Michigan, USA, [3]City University of Hong Kong, HONG KONG, [4]Noul Co. Ltd, KOREA, and [5]Harvard Medical School, USA

12:05 - 12:15

INTEGRATING IMMISCIBLE DNA EXTRACTION AND ISOTHERMAL AMPLIFICATION FOR DETECTION OF PATHOGENS IN LOW-RESOURCE SETTINGS

Pablo Rodriguez-Mateos[1], Phanupong Changtor[2], Anton Stolt[1], Alexander Iles[1], and Nicole Pamme[1]

[1]Stockholm University, SWEDEN and [2]Naresuan University, THAILAND

12:15 - 12:25

MULTIPLEXED HIGH THROUGHPUT RAPID POINT-OF-CARE ELECTRONIC BIOSENSING OF ONCHOCERCIASIS ANTIBODY MARKERS

Mallika Senthil, Sarah Ali, Hanhao Zhang, Neda Rafat, Asma Hashim, Nabojeet Das, Neha Rajan, and Aniruddh Sarkar

Georgia Institute of Technology, USA

12:25 - 12:35

REFLECTION PPG-BASED NOVEL DEVICE FOR BLOOD GLUCOSE MEASUREMENT AND DATASET GENERATION

Kazi Mosaddequr and Tanzilur Rahman
North South University, BANGLADESH

12:35 - 12:45 Break

Poster Session 2
12:45 - 13:15

a - Application-Focused Diagnostics for Global Health

P2.11a CHAIN LAMP: DEVELOPMENT OF A HIGHLY MULTIPLEXED RT-LAMP ASSAY FOR HIV VIRAL LOAD TESTING

Shane Gilligan-Steinberg, Enos Kline, Qin Wang, Ian Hull, Nuttada Panpradist, Joanne Stekler, Paul Drain, James Lai, and Barry Lutz
University of Washington, USA

P2.12a ELECTROPOLYMERIZED MOLECULARLY IMPRINTED POLYMER (EMIP) ON LASER-INDUCED GRAPHENE FOR STRESS MONITORING

Atul Sharm, Rachel Owyeung, Rachael Azrialy, and Sameer Sonkusale
Tufts University, USA

P2.13a BLOOD LYSIS AND HAEMOGLOBIN CAPTURE IMPROVE COLOUR-BASED SIGNAL IN MPAD

Adewoyin M. Ogunmolasuyi[1,2], Mary A. Adewoyin2, Julien Reboud[3], and Evans C. Egwim[1,2]
[1]Federal University of Technology, NIGERIA, [2]Anchor University, NIGERIA, and [3]University of Glasgow, Scotland, UK

b - Development and Design of Microfluidic Platforms for Disease Diagnosis

P2.14b A MICROFLUIDIC PLATFORM TO STUDY BACTERIAL MOTILITY UNDER CONFINEMENT

Md Ramiz Raza, Jijo George, Savita Kumari, Mithun Mitra, and Debjani Paul
Indian Institute of Technology Bombay, INDIA

P2.15b DEFORMABILITY MEASUREMENT OF MALARIA-INFECTED AND STORED RBCS USING MICROFLUIDICS

Savita Kumari[1], Priyanka Naik[1], Chhaminder Kaur[1], Vijay Mistari[1], Tanushree Roy[1], Swati Patankar[1], Shamik Sen[1], Dhrubaditya Mitra[2,3], and Debjani Paul[1]
[1]Indian Institute of Technology, Bombay, INDIA,
[2]KTH Royal Institute of Technology, SWEDEN, and [3]Stockholm University, SWEDEN

P2.16b EQUIPMENT-FREE PARTITIONING PLATFORM IN THERMOPLASTIC
Phenix-Lan Quan, Maria Alvarez-Amador, Yuhe Jiang, Martin Sauzade, and Eric Brouzes
Stony Brook University, USA

P2.17b IMPROVING DIGITAL MELT ACCURACY VIA OLIGONUCLEOTIDE-ENABLED CURVE ALIGNMENT
Amelia Traylor, Pei-Wei Lee, Kuangwen Hsieh, and Tza-Huei Wang
Johns Hopkins University, USA

P2.18b NANOMATERIALS INTEGRATED WITH MICROFLUIDIC PAPER-BASED ANALYTICAL DEVICES FOR ENZYME-FREE GLUCOSE QUANTIFICATION
Kawin Khachornsakkul, Frank Rybicki IV, and Sameer Sonkusale
Tufts University, USA

P2.19b POINT-OF-CARE DETECTION OF SICKLE CELL DISEASE AND TRAIT, THROUGH MICROSCOPIC DETERMINATION OF RED BLOOD CELL SHAPES INDUCED BY DIFFERENTIAL HYPOXIA
Claudy D'Costa[1], Oshin Sharma[1], Riddha Manna[1], Minakshi Singh[1], Samrat Singh[1,2], Srushti Singh[1], Anish Mahto[1], Pratiksha Govil[1], Sampath Satti[1], Ninad Mehendale[1], Yazdi Italia[3], and Debjani Paul[1]
[1]Indian Institute of Technology, Bombay, INDIA, [2]MedPrime Technologies Pvt. Ltd., INDIA, and [3]Valsad Raktdan Kendra, INDIA

P2.20b SLIM-FISH: SIMPLIFIED LASER INDUCED MICROFLUIDIC FLUORESCENCE IN-SITU HYBRIDIZATION BASED ANTIBIOTICS SUSCEPTIBILITY TEST AND SUB-5 MINUTE PATHOGEN IDENTIFICATION.
Lai Wei, Fangchi Shao, Sixuan Li, Kuangwen Hsieh, and Jeff Tza-Huei Wang
Johns Hopkins University, USA

Keynote Presentation V

13:15 - 13:45
DIAGNOSTICS LITERACY FOR SUCCESSFUL IMPLEMENTATION
Tivani Mashamba-Thompson
University of Pretoria, SOUTH AFRICA

13:45 - 14:00 Break

Panel 2 - Sustainability

14:00 - 14:30
Moderator: Tivani Mashamba-Thompson, University of Pretoria, SOUTH AFRICA

Harry Akligoh, *Yemaachi Biotech, GHANA*
Maiwenn Kersaudy-Kerhoas, *Heriot-Watt University, UK*
Mudrika Khandelwal, *Indian Institute of Technology, Hyderabad, INDIA*

Keynote Presentation VI

14:30 - 15:00

To Be Announced
Catherine M. Klapperich
Boston University, USA

Award Ceremony and Closing Remarks

15:00 - 15:30
Global Health Workshop 2023 Conference Chairs
Samantha Byrnes, *Amazon, USA*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*