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, 17 June 2025

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

Welcome

14:00 - 14:15

Global Health Workshop 2025 Conference Chairs

Maïwenn Kersaudy-Kerhoas, *Heriot-Watt University, UK*

Jacqueline Linnes, *Purdue University, USA*

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

Keynote Presentation I

14:15 - 14:45

Gagandeep Kang

Bill and Melinda Gates Foundation, USA

Lightning Talks – Session I

14:45 - 14:55

BOOSTING COMMERCIAL IMMUNOASSAYS USING ELECTROKINETIC PRECONCENTRATION IN MICROFLUIDIC DEVICES

Barak Sabbagh[1,2], Sinwook Park[2], and Gilad Yossifon[2]

[1]Technion ISRAEL, and [2]Tel Aviv University, ISRAEL

14:55 – 15:05

OXIDATIVE HAIR DYE CHEMISTRY UNLOCKS ULTRA-SENSITIVE AND AFFORDABLE ENZYMATIC LATERAL FLOW IMMUNOASSAYS

Karan Saxena and Bhushan Toley

Indian Institute of Science, Bangalore, INDIA

15:05 – 15:15

CANDYCOLLECT FUNGAL: EXPANDING THE BREADTH OF OUR MICROFLUIDIC SALIVA COLLECTION PLATFORM

Albert Shin, Sarah Feng, Daniel Hatchett, Damon Wing Hey Chan, Wan-chen Tu, Ingrid Robertson, Jodie Tokihiro, Xiaojing Su, Karen Adams, Erwin Berthier, Sanitta Thongpang, and Ashleigh Theberge

University of Washington. USA

15:15 - 15:25 Break

Poster Session
15:25 - 16:25

a – Development and Design of Micrfluidic Platforms for Disease Diagnostic

P1.01a **A SMEAR ASSAY TO SCREEN ANEMIA AND SICKLE CELL DISEASE**
Mahrukh Mir and Mahesh Tirumkudulu
Indian Institute of Technology, Bombay, INDIA

P1.02a **CANDYFLUIDICS: THE ART OF FABRICATING NANOFLUIDIC GEOMETRIES USING SCREEN-PRINTED SUGAR SCAFFOLDS**
Tochukwu Anyaduba[1,2] and Jesus Rodriguez-Manzano[1]
[1]Imperial College London, UK and [2]Hezekiah University, Umudi, Imo State, NIGERIA

P1.03a **COMPARISON OF AN INERTIAL MICROFLUIDIC DEVICE WITH A PRECIPITATION KIT FOR ISOLATION OF EXTRACELLULAR VESICLES**
Shreya Karandikar, Sourav Acharya, Haimanti Mukherjee, Prakriti Tayalia, and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

P1.04a **DEVELOPMENT OF A TUBERCULOSIS DIAGNOSIS DEVICE USING MICROFLUIDICS AND LATERAL FLOW ASSAY**
Martha Chaitezvi
Ashesi University, GHANA

P1.05a **IMPROVING CANDYCOLLECT, AN OPEN MICROFLUIDIC LOLLIPOP-INSPIRED SALIVARY PATHOGEN SAMPLING DEVICE, FOR FASTER FABRICATION AND SHORTER SAMPLING TIME**
Wan-chen Tu, Daniel Hatchett, Albert Shin, Ingrid Robertson, Jodie Tokihiro, Xiaojing Su, Erwin Berthier, Sanitta Thongpang, and Ashleigh Theberge
University of Washington, USA

P1.06a **VISCOELASTIC FLOW-ASSISTED CENTRIFUGAL MICROFLUIDIC PLATFORM FOR PARTICLE SORTING**
Shekhar Panicker, Sourav Acharya, and Debjani Paul
Indian Institute of Technology, Bombay, INDIA

P1.07a **A DESIGN-BASED APPROACH FOR BETTER MIXING IN PAPER-BASED MICROFLUIDICS**
Pragyan Ray and Prasoon Kumar
National Institute of Technology Rourkela, INDIA

P1.08a **MULTIPLEXED MOLECULAR DETECTION OF HUMAN AFRICAN TRYPANOSOMIASIS AND MALARIA IN LOW RESOURCE SETTINGS**
Eugene Ebere Akujuru, Claire Gould, Pawel Jajesniak, Anneli Cooper, Walt E. Adamson, Annette MacLeod, Julien Reboud and Jonathan M. Cooper
University of Glasgow, UK

P1.09a A FAST MICROFLUIDIC DEVICE FOR CHARACTERISATION OF YOUNG'S MODULUS, SHAPE AND ADHESEVINESS OF SINGLE RED BLOOD CELLS FROM SICKLE CELL DISEASE AND SICKLE CELL TRAIT PATIENTS

Savita Kumari[1], Oshin Sharma[1], Dhrubaditya Mitra[1], and Debjani Paul[1]
[1]Indian Institute of Technology Bombay, INDIA,
[2]KTH Royal Institute of Technology, SWEDEN, and [3]Stockholm University, SWEDEN

P1.10a A NOVEL BLOOD FILTRATION METHOD FOR ENHANCED DETECTION OF SALMONELLA ENTERICA SEROVAR TYPHI IN A POINT-OF-CARE DEVICE

Claire Gould[1], Eugene Ebere Akujuru[1], Mehwish Ambreen[1,2], Daniel Wall[1],
[1]Jonathan Cooper, and Julien Reboud
[1]University of Glasgow, UK and
[2]National Institute for Biotechnology and Genetic Engineering, PAKISTAN

P1.11a COMPREHENSIVE CHARACTERIZATION OF NUCLEIC ACID EXTRACTS UTILIZING HYPERBRANCHED POLYAMINE-ESTER FUNCTIONALIZED SILICA FOR ACCELERATED CLINICAL PROCESSING

Akshaya Jagannath
University College Dublin, IRELAND

P1.12a LUMINESCENT NUCLEIC ACID SENSOR (LUNAS): A VERSATILE AND SIMPLE MOLECULAR DIAGNOSTIC TEST FOR INFECTIOUS DISEASES IN LOW-RESOURCE SETTINGS

Harm van der Veer[1,10], Yosta de Stigter[1,2], Jora Couwenberg[1], Ingrid Kolen[1], Jorden Migneaux[2], Juliëtte Schlaghecke[2], Britte Treure[1], Bianca Gionkar[1], Sterre de Lignie[1], Max Bossink[1], Hannah Versluijs[1], Anne Loonen[2], Joost Schoeber[2], Julian Apako[3], Alex Abal[4], Gabriel Akech[4], Benon Asiimwe[3], Jacky Flipse[5,7], Erik Schaftenaar[6,9,10], Guido Bastiaens[5,7,08,09,10], and Maarten Merkx[1,10]
[1]Eindhoven University of Technology, NETHERLANDS,
[2]Fontys University of Applied Sciences, NETHERLANDS, [3]Makerere University, UGANDA,
[4]Kumi Hospital, UGANDA, [5]Dicoon, NETHERLANDS,
[6]St. Antonius Hospital, NETHERLANDS, [7]Rijnstate Hospital, NETHERLANDS,
[8]Slingeland Hospital, NETHERLANDS, [9]Global Health Initiative Foundation, NETHERLANDS, and [10]Spotlight Dx, NETHERLANDS

P1.13a MULTIPLEXED ISOTHERMAL ASSAY FOR THE DETECTION OF PLASMODIUM FALCIPARUM, TRICHOMONAS VAGINALIS, AND CHLAMYDIA TRACHOMATIS IN URINE

Joshua Dupaty[1], Clement Shihluli[2], Berit Schaus[1], Srinivasa Lolabattu[3], Jesse Gitaka[2], and Catherine Klapperich[1]
[1]Boston University, USA, [2]Mount Kenya University, KENYA, and
[3]Jigsaw Bio Solutions, INDIA

P1.14a RAPID DISTANCE-BASED PAPER ANALYTICAL DEVICES FOR HEMOGLOBIN QUANTIFICATION IN HUMAN SERUM SAMPLES FOR SENSITIVE ANEMIA DIAGNOSIS AND PROGNOSIS

Kawin Khachornsakkul, Elliot Friesen, Natkrittaya Saengsawang, and Sameer Sonkusale
Tufts University, USA

P1.15a TOY-INSPIRED OSCILLATOR ENABLES ELECTRICITY-FREE THERMAL CYCLING

Kissan Achary and Aashish Priye
University of Cincinnati, USA

P1.16a UTILIZATION OF CARBON DOT FLUORESCENCE SIGNALS COUPLED WITH FERROUS IONS FOR HYDROGEN PEROXIDE DETECTION USING A DISTANCE-BASED PAPER DEVICE

Natkrittaya Saengsawang, Kawin Khachornsakkul, Elliot Friesen, and Sameer Sonkusale
Tufts University, USA

P1.17a CONTROLLED CELL-CELL CONTACT WITH A COST-EFFECTIVE MICROFLUIDIC DEVICE COMBINING DIELECTROPHORESIS AND HYDRODYNAMIC TRAPPING

Clémentine Lipp, Arnaud Bertch, and Philippe Renaud
Ecole Polytechnique Fédérale de Lausanne, SWITZERLAND

b – Application-focused Diagnostics for Global Health

P1.18b HORMONISCAN: APP-BASED HORMONE PROFILING FOR WOMEN'S HEALTH

Anna Anandita[1], Arun Saini[2], and Gaytri Sachdeva[1]
[1]Indian Institute of Technology, Jammu, INDIA and
[2]Indian Institute of Science, Bengaluru, INDIA

P1.19b AFFORDABLE BILIRUBIN SENSOR FOR AT-HOME AND REMOTE INFANT MONITORING

Victor Ong, Mona Mohamed, Haozheng Ma, Abdulrahman Al-Shami, Sina Khazaee Nejad, Farbod Amirghasemi, Asna Tabassum, Michael Lee, Alexander Rohleder, Cathy Zhu, Chur Tam, Patrick Nowlen, and Maral P.S. Mousavi
University of Southern California, USA

P1.20b ENDPOINT VISUAL YES/NO DETECTION OF SINGLE NUCLEOTIDE POLYMORPHISMS USING LAMP-OSD

Sanchita Bhadra and Andrew Ellington
University of Texas, Austin, USA

P1.21b HYPOXIA-RESPONSIVE ELEMENT ASSAY PLATFORM FOR DISSECTING BASIC HELIX-LOOP-HELIX DECISION-MAKING PATHWAYS OF COMPOUND METABOLIZING ENZYMES

Ren-In You[1,2,3]
[1]Tzu Chi University, TAIWAN,
[2]Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, TAIWAN and
[3]National Taiwan University, TAIWAN

P1.22b PAPER MICROFLUIDIC ORIGAMI DEVICE FOR DETECTION OF EDIBLE OIL QUALITY

Pavithra Sukumar[1], Fernando Castano, Muhammedin Deliorman, Leen Samer[4], Dana Abujalban[3], Muhammad Datt[3], and Mohammad Qasaimeh[1,2]
[1]New York University Abu Dhabi, UAE, [2]New York University, USA,
[3]Jordan University of Science and Technology, JORDAN, and [4]Khalifa University, UAE

c – Integrating Diagnostic Technologies with Health Systems

P1.23c SMARTPHONE-BASED POINT-OF-CARE MICROSCOPY APPROACHES FOR DETECTING BIOLOGICAL AGENTS
Avinash Baskaran and Robert Read
Public Invention (501c3), USA

P1.24c ACTIVE DIAGNOSTICS INGREDIENTS (ADIS) FOR PCR: DNTP PRODUCTION FROM GENOMIC DNA AND RECOMBINANT IMMOBILIZED ENZYMES
Anna Bird[1,2], Adam Roberts[1], and Elizabeth Hall[1]
[1]University of Cambridge, UK and 2Imperial Global Singapore, SINGAPORE

P1.25c CHOOSING WISELY: IMPROVING DECISION-MAKING FOR DEPLOYMENT OF DIAGNOSTICS IN PRIMARY CARE SETTINGS
Varsha Shridhar[1,2], Vasudha Kannan[3], Ramakrisna Prasad[2,4], and Pavitra Mohan[2]
[1]Molecular Solutions Care Health LLP, INDIA, [2]Basic Healthcare Services, INDIA,
[3]Indian Institute of Technology, Madras, INDIA,
[4]AFPI National Centre for Primary Care Research and Policy and Comprehensive Primary Health Care Alliance, INDIA

P1.26c ANTIBIOTIC-CONJUGATED GOLD NANOPARTICLES FOR COLORIMETRIC DETECTION OF ESCHERICHIA COLI (O157: OH) IN LASER-PRINTED µPAD
Adewoyin Ogunmolasuyi[1], Boluwatife Omoniyo[1], Ayomide Olajide[1], Victoria Ogunsuyi[1], Ayomiposi Ologunwa[1], Jonathan Irhodia[1], and Msry Adewoyin[2]
[1]Federal University of Technology Akure, NIGERIA and
[2]Anchor University Lagos, NIGERIA

Keynote Presentation II

16:25 - 16:55

Manu Prakash
Stanford University, USA

16:55 - 17:05 Break

Panel Discussion 1 – Open Source Open Hardware for Diagnostics

17:05 - 17:50
Moderator: Victoria Jaqua RT (R) (CT), *RCIS, Open* Source *Medical Supplies, USA*

Séverine Cazaux, *Pontificia Universidad Católica de Chile, CHILE*
Jorum Mduda, *Ifakara Health Institute, TANZANIA*
Siddharth Tallur, *Indian Institute of Technology Bombay, INDIA*

Keynote Presentation III

17:50 - 18:20

Fernan Federicci
Pontifica Universidad Católica de Chile, CHILE

Award Ceremony and Closing Remarks for the Day

18:20 - 18:30
Global Health Workshop 2025 Conference Chairs
Maïwenn Kersaudy-Kerhoas, *Heriot-Watt University, UK*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*

Wednesday, 18 June 2025

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

Welcome

11:00 - 11:15
Global Health Workshop 2025 Conference Chairs
Maïwenn Kersaudy-Kerhoas, *Heriot-Watt University, UK*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*

Introduction to Frugal DX
11:15 - 11:30

Keynote Presentation IV

11:30 - 12:00

Margaret Mutumba
Western University, CANADA

Short Talks Followed by
Panel Discussion 2 – Frugal Diagnostics
Future of African Diagnostics

12:00 - 13:15
Moderator: Robert Ssekitoleko, *Makerere University, UGANDA*

Robert Adamu Shey, *University of Buea, CAMEROON*
Abdi Mirgissa, *CNRS, FRANCE*
Koena Leah Moabelo, *University of the Western Cape, SOUTH AFRICA*

13:15 - 13:30 Break

Lightning Talks – Session 2

13:30 - 13:40

DEVELOPMENT OF A CRISPR-LAMP BASED BIOSENSOR WITH A LATERAL FLOW READOUT FOR THE DETECTION OF CUTANEOUS LEISHMANIASIS

Laud Anthony Basing[1,2], Graselda Aning[2], Belinda Antwi[1], Anthony Dziworshie[1], Francisca Adomako[2], Christabel Boateng[1], and Yaw Adu-sarkodie[1]
[1]Kwame Nkrumah University of Science and Technology, GHANA and
[2]Incas Diagnostics, GHANA

13:40 – 13:50

POINT-OF-CARE CASSETTE FOR NUCLEIC ACID-BASED HPV DIAGNOSIS

Ella Boswell[1], RoryBarnes[1], George Awinda[2], Josphat Nyataya[2], Kevin Waomba[2], Felix Bahati[2], Cliff Onyango[2], John Waitumbi[2], Simon Kariuki[2], Maricianah Onono[2], Julien Reboud[2], Jonathan Cooper[2], Imeldah Wakhungu[2], and Lizzie Kabete[2]
[1]University of Glasgow, UK and
[2]Kenya Medical Research Institute, Center for Global Health Research, KENYA

13:50 – 14:00

PORTABLE, QUANTITATIVE DIAGNOSTICS WITH LAMP-VISION: A DUAL-SIDED HEATER-IMAGER FOR PAPER-BASED NUCLEIC ACID TESTING

Bibek Raut, Gopal Palla, Dan Van Nguyen, and Mohit Verma
Purdue University, USA

Panel Discussion 3 – Sustainability
Diagnostics Environmental Sustainability

14:00 – 14:45

Moderator: Alice Street, *University of Edinburgh, UK*

Sander Julian Brus, *Okos Diagnostics, NEDERLAND*
Zibusiso Ndlovu, *Medicins Sans Frontiers, SOUTH AFRICA*
Rumbidzai Ndungwani, Cepheid, KENYA

Keynote Presentation V

14:45 - 14:15

Victoria Jaqua
Open Source Medical Supplies, USA

Award Ceremony and Closing Remarks

15:15 - 15:45

Global Health Workshop 2025 Conference Chairs
Maïwenn Kersaudy-Kerhoas, *Heriot-Watt University, UK*
Jacqueline Linnes, *Purdue University, USA*
Debjani Paul, *Indian Institute of Technology, Bombay, INDIA*