

NCI-NIBIB Point of Care Technologies for Cancer Conference

January 8-9, 2014

Natcher Auditorium, NIH campus– Building 45

Bethesda, Maryland

January 8

7:30 am – 5:00 pm **Registration**

Opening Session

8:00 – 8:15 **Welcome from the Organizing Committee (Christine A. Kelley, PhD, NIBIB)**

8:15 – 8:30 **Opening Remarks:**
Roderic I. Pettigrew, PhD, MD, Director, NIBIB

Douglas Lowy, MD, Deputy Director, NCI

8:30 – 9:00 **Keynote Address 1:**
Nanotechnology: Reaching New Levels of Diagnostic Sensitivity for Early Stage Disease Detection,
Lance A. Liotta, MD, PhD, George Mason University

9:00 – 9:30 **Keynote Address 2:**
New Opportunities for Point-of-Care Technologies to Improve Global Efforts to Effectively Detect
and Treat Cancer, **Rebecca Richards-Kortum, PhD, Rice University**

Session I: Breast Cancer

(Moderators: **Nirmala Ramanujam, PhD, Duke University** and **Avi Rasooly, PhD, NCI**)

9:30 – 9:50 **Clinical Challenges and the Need for Point of Care Technologies**
Breast Cancer Pathology, **Jane E. Brock, MBBS, PhD, Brigham and Women's Hospital, Harvard
Medical School**

9:50 – 10:10 **Imaging POC Technologies**
Label-Free Coherent Optical Imaging for Point-of-Care Screening and Diagnostics, **Guillermo L.
Monroy, MS, University of Illinois at Urbana-Champaign**

10:10 – 10:30 **Break**

10:30 – 10:50 **In vitro Diagnostic or Monitoring POC Technologies**
Breast Cancer Molecular Diagnostics, **Jeffrey Marks, PhD, Duke University**

- Emerging POC Technologies**
- 10:50 – 11:10** Smart Reagent Nanotechnologies for POC Diagnostics, **Patrick Stayton**, PhD, *University of Washington*
- 11:10 – 11:30** Optical Spectroscopy and Spectral Imaging; Examples for Point of Care in Women's Health, **Nirmala Ramanujam**, PhD, *Duke University*
- 11:30 – 11:50** Ultraportable Near-infrared Optical Scanner (NIROS) for Breast Pre-screening, **Anuradha Godavarty**, PhD, *Florida International University*
- 11:50 – 12:10** Cellphone based Imaging, Sensing and Diagnostics for Global Health, **Aydogan Ozcan**, PhD, *University of California, Los Angeles*
- 12:10 – 12:30** **Panel Discussion**
- 12:30 – 2:00** **Lunch on your own and Poster and Technology Demonstration Session**
- 2:00 – 3:00** **Selected Posters & Technology Presentations** (Moderator: Miguel Ossandon, MSc, *NCI*)

Session II: Prostate Cancer

(Moderators: Jacob Kagan, PhD, *NCI* and John T Wei, MD, *University of Michigan*)

- Clinical Challenges and the Need for Point of Care Technologies**
- 3:00 – 3:20** Prostate Cancer Early Detection, **John T Wei**, MD, *University of Michigan*
- 3:20 – 3:40** Prostate Cancer Challenges, **Willie Underwood**, MD, *Roswell Park Cancer Institute*
- Imaging POC Technologies**
- 3:40 – 4:00** Biophotonics Methods for Cancer Risk Assessment in Primary Care Settings, **Vadim Backman**, PhD, *Northwestern University*
- In vitro Diagnostic or Monitoring POC Technologies**
- 4:00 – 4:20** Point of Care Analysis of Prostate and Ovarian Cancer, **John McDevitt**, PhD, *Rice University*
- Emerging POC Technologies**
- 4:20 – 4:40** Simplifying Design: Streamlined yet Multi-stage Assays for Protein Biomarker Diagnostics, **Amy Herr**, PhD, *University of California, Berkeley*
- 4:40 – 5:00** **Panel Discussion**
- 5:00** **Adjourn for the day**

January 9

7:30 am – 5:00 pm **Registration**

Plenary Talk: (Moderator, Steven Krosnick, MD, *NIBIB*)

8:30 – 9:20 Bioengineering and Clinical Applications of Circulating Tumor Cell Chip
Mehmet Toner, PhD, *Massachusetts General Hospital* and **Daniel A. Haber**, MD, PhD,
Massachusetts General Hospital

Session III: Gastrointestinal Malignancies

(Moderators: David Erickson, PhD, *Cornell University* and Brenda Korte, PhD, *NIBIB*)

9:20 – 9:40 **Clinical Challenges and the Need for Point of Care Technologies**
Gastrointestinal Malignancies, **Stephen Meltzer**, MD, *Johns Hopkins University*

9:40 – 10:00 **In vitro Diagnostic or Monitoring Point of Care Technologies**
Population-based Colorectal Screening, **Uri Ladabaum**, MD, *Stanford University*

10:00 – 10:20 **Emerging Point of Care Technologies**
Lab-on-a-Syringe Diagnosis of Kaposi's Sarcoma, **David Erickson**, PhD, *Cornell University*

10:20 – 10:50 **Break**

10:50 – 11:10 Micro- and Nano-scale Technologies for Applications in Medicine at the Point of Care, **Utkan Demirci**, PhD, *Brigham and Women's Hospital, Harvard Medical School*

11:10– 11:30 Cancer Molecular Imaging, **Peter Choyke**, MD, *NCI*

11:30 – 11:50 **Panel Discussion - Gastrointestinal Malignancies**

11:50 – 2:00 **Lunch on your own and Poster and Technology Demonstration Session**

2:00 – 3:30 **Networking Sessions (concurrent)**
Balcony B – Breast Cancer and Point of Care Technologies
Balcony C – Prostate Cancer and Point of Care Technologies
Main Auditorium – GI Malignancies and Point of Care Technologies

3:30 – 3:50 **Break**

3:50 – 5:00 **Funding Opportunities for POC Technologies for Cancer**
(Moderator: Jennifer Couch, PhD, *NCI*)

Richard Conroy, PhD, *NIBIB*
Houston Baker, PhD, *NCI, Division of Cancer Treatment and Diagnosis*
Miguel Ossandon, MSc, *NCI, Division of Cancer Treatment and Diagnosis*
Jacob Kagan, PhD, *NCI, Division of Cancer Prevention*
Ming Zhao, PhD, *NCI, SBIR Center*

Cancer Detection, Diagnosis, and Treatment Technologies for Global Health

Natcher Auditorium, NIH Campus– Building 45

Bethesda, Maryland

January 10, 2014

8:00 am – 10:00am **Registration**

Opening Session

8:30 – 8:40 **Opening Remarks:** Edward L. Trimble, MD, MPH, *NCI*

8:40 – 9:10 **Keynote Address:** Cancer in Global Health: Implementing Technology to Span the Capacity Gap, Benjamin O. Anderson, MD, *Fred Hutchinson Cancer Research Center*

Session I: Detection, Diagnosis, and Treatment Technologies for Global Health

(Moderators: Jose Jeronimo, MD, *PATH* and Miguel Ossandon, MSc, *NCI*)

9:10 – 9:25 Low Cost Point of Care Technologies for Global Health, **Hugh A. Bruck**, PhD, *University of Maryland*

9:25 – 9:40 Mobile Devices for Disease Diagnosis in Global Health, **Shan X. Wang**, PhD, *Stanford University*

9:40 – 9:55 Low Cost Imaging Device for Kaposi's Sarcoma: Experience in Mozambique, **Yu-Tsueng Liu**, MD, PhD, *University of California, San Diego*

9:55 – 10:10 Ultrasound on a Smartphone, **Sailesh Chutani**, PhD, *Mobisante*

10:10 – 10:25 Treatment of Cervical Pre-cancer: Options for Areas with Limited Resources, **Jose Jeronimo**, MD, *PATH*

10:25 – 10:50 **Break**

Session II: Applying Cancer Programs in Global Health Settings

(Moderators: Miriam Cremer, MD, MPH, *University of Pittsburgh* and Ben Prickril, PhD, *NCI*)

10:50 – 11:10 A New Algorithm for Cervical Cancer Screening and Treatment: Public Sector HPV DNA Testing using CareHPV, **Miriam Cremer**, MD, MPH, *University of Pittsburgh*

11:10 – 11:30 Cancer Device Development for Global Health, **Vivian Coates**, MBA, *ECRI*

11:30 – 11:50 Challenges of Developing Research Collaborations in Low and Middle-Income Countries, **Gray Handley**, MSPH, *NIAID*

11:50 – 12:10 Developing Clinical Programs in Africa, **Carol Harris**, MD, *Albert Einstein College of Medicine*

12:10 – 12:30 **Panel Discussion** (Moderator, **Houston Baker**, PhD, *NCI*)

12:30 – 1:00 **Funding Opportunities in Global Health** (Moderators: **Miguel Ossandon**, MSc, *NCI* and **Ming Zhao**, PhD, *NCI*)