FOURTH INTERNATIONAL
Molecular Diagnostics EUROPE
5-7 APRIL 2016
SHERATON LISBOA HOTEL & SPA
LISBON, PORTUGAL

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CAMBRIDGE HEALTHTECH INSTITUTE'S FOURTH INTERNATIONAL

Molecular Diagnostics EUROPE

5-7 APRIL 2016 | SHERATON LISBOA HOTEL & SPA | LISBON, PORTUGAL

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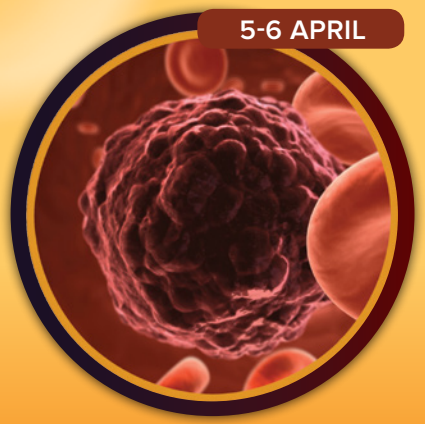
5-6 APRIL



Inaugural

Circulating Tumour Cells

Coverage Includes

- Detection, isolation, and characterization of viable CTCs
- Clinical applications of molecular assays for characterization of CTCs
- Support of standardized CTC assessment to improve individualized medicine
- CTCs to predict and monitor response to therapy

KEYNOTE PRESENTATION
Clinical Implications of CTCs Analysis
Klaus Pantel, M.D., Professor and Founding Director, Institute of Tumor Biology, University Medical Center Hamburg-Eppendorf

Strategies for Bringing Liquid Biopsy to the Clinic

6-7 APRIL

Second Annual

Circulating Cell-Free DNA

Coverage Includes

- Early detection of cancer using ctDNA
- Clinical validation of circulating DNA for cancer patients follow up
- Detection of circulating material from plasma, urine, and saliva
- Recent technological advances in the analysis of ctDNA

KEYNOTE PRESENTATION
Novel Methods for Enrichment of Mutations and Differentially Methylated Sequences from Liquid Biopsy Genomes
G. Mike Makrigiorgos, Ph.D., Professor, Radiation Oncology, Dana Farber and Harvard Medical School

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CONFERENCE AT-A-GLANCE

	Monday, 4 April	Tuesday, 5 April	Wednesday, 6 April	Thursday, 7 April
AM				
PM	Advances in Prenatal Molecular Diagnostics		Reproductive Genetic Diagnostics	
AM		Advanced Diagnostics for Infectious Disease		
PM			Point-of-Care Diagnostics	
AM		Circulating Tumour Cells		
PM			Circulating Cell-Free DNA	

About the Event

Novel molecular-based tools are rapidly entering the clinic and creating a new paradigm in healthcare. The **Fourth International Molecular Diagnostics Europe** event will return to Lisbon this spring and feature six tracks: *Prenatal Molecular Diagnostics*, *Reproductive Genetic Diagnostics*, *Circulating Tumour Cells*, *Circulating Cell-Free DNA*, *Advanced Diagnostics for Infectious Disease*, and *Point-of-Care Diagnostics*. As the prenatal diagnostics market has demonstrated, molecular diagnostics are being applied to the clinical setting for greater speed and accuracy of healthcare delivery, while paving the way for a new era in medicine.

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HOTEL & TRAVEL INFORMATION

Conference Hotel:

Sheraton Lisboa Hotel & Spa
Rua Latino Coelho, 1
1069-025 Lisbon, Portugal
Phone: (351)(21) 3120000

Reservations: Go to the travel page of **www.MolecularDxEurope.com**

Discounted Room Rate: €130 single/€150 double, includes breakfast
Discounted Room Rate Cut-off Date: 17 February 2016

Go to the travel page of www.MolecularDxEurope.com for additional info

Why Stay at the Sheraton Lisboa Hotel and Spa?

Be in the Heart of it All - The Sheraton Lisboa Hotel and Spa is located right in the heart of the city!

Get Here Quickly - Located just minutes from Lisbon Airport, it's a quick trip in and out.

Energize - Enjoy a complimentary delicious breakfast, visit the gym, or swim in the pool (weather permitting).

Be Productive - Complimentary wifi in all attendee guest rooms lets you get work done on YOUR time.

Relax and Enjoy - Restaurants, shops and the historic sites of the beautiful city of Lisbon are just a short walk away.

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CHI offers comprehensive sponsorship packages which include presentation opportunities, exhibit space, branding and networking with specific prospects. Sponsorship allows you to achieve your objectives before, during, and long after the event. Any sponsorship can be customized to meet your company's needs and budget. Signing on early will allow you to maximize exposure to qualified decision-makers.

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Sponsors will select their top prospects from the conference pre-registration list for an evening of networking at the hotel or at a choice local venue. CHI will extend invitations and deliver prospects, helping you to make the most out of this invaluable opportunity. Evening will be customized according to sponsor's objectives i.e.:

- Purely social
- Focus group
- Reception style
- Plated dinner with specific conversation focus

Exhibit

Exhibitors will enjoy facilitated networking opportunities with qualified delegates. Speak face-to-face with prospective clients and showcase your latest product, service, or solution.

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Select your top prospects from the pre-conference registration list. CHI will reach out to your prospects and arrange the meeting for you. A minimum number of meetings will be guaranteed, depending on your marketing objectives and needs. A very limited number of these packages will be sold.

Additional branding and promotional opportunities are available, including:

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Ilana Quigley
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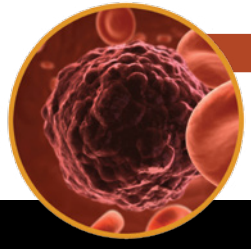

Inaugural

5-6 April 2016

Circulating Tumour Cells

Strategies for Bringing Liquid Biopsy to the Clinic

TUESDAY, 5 APRIL

CTC DETECTION, CHARACTERIZATION, AND ISOLATION

8:00 Registration and Morning Coffee

9:00 Chairperson's Remarks

Klaus Pantel, M.D., Professor and Founding Director, Institute of Tumor Biology, University Medical Center Hamburg-Eppendorf, Germany

» 9:05 KEYNOTE PRESENTATION: CLINICAL IMPLICATIONS OF CTCS ANALYSIS

Klaus Pantel, M.D., Professor and Founding Director, Institute of Tumor Biology, University Medical Center Hamburg-Eppendorf, Germany

Circulating tumor cells (CTCs), nucleic acids (ctDNA, cfmiRNA) and exosomes in the blood of cancer patients have received increasing attention as new diagnostic tools enabling "liquid biopsies". The perspective to avoid invasive tissue biopsies and obtain similar or even more information by a "simple" blood test has enormous implications in cancer diagnostics. Here the expectations and future steps required to bring liquid biopsies into clinical practice will be discussed.

9:35 Detection, Characterization, and *ex vivo* Expansion of Viable Circulating Tumour Cells

Catherine Alix-Panabières, Ph.D., Director, Laboratory Rare Human Circulating Cells, Cell and Tissue Biopathology of Tumors, University Medical Center of Montpellier, France

Circulating tumor cells (CTCs) in blood are promising new biomarkers potentially useful for prognostic prediction and monitoring of therapies in patients with solid tumors. We reported for the first time (1) the establishment of a permanent cell line from CTCs of one colon cancer patient & (2) that PDL1 is heterogeneously expressed on CTCs from metastatic breast cancer patients. CTC research opens a new avenue for understanding the biology of metastasis in cancer patients.

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10:05 Presentation to be Announced

10:35 Coffee Break in the Exhibit Hall with Poster Viewing

11:15 Quantification of Malignant Cells in CSF with Cellsearch VERIDEX Improves Diagnosis and Management of Carcinomatous Meningitis

Gilbert C. Faure, Ph.D., PU PH Consultant, Laboratoire d'Immunologie, Université Lorraine & CHU Nancy (Nancytomique), France

Diagnostic methods of leptomeningeal metastases (LM) in Cerebro-Spinal fluid (CSF), lack both specificity and sensitivity. We adapted the Veridex CellSearch® technology to detect Tumour Cells (CSFTCs) in CSF from breast, lung and melanoma cancer patients with LM. This method, established on a limited volume of CSF prove to be of great interest in diagnosis and follow-up of cancer patients with LM opening new fields for characterization of cells crossing the blood-brain-barrier and evaluation of efficiency of systemic or intrathecal therapies.

11:45 A Functionalized Medical Device for CTC Isolation *in vivo* and Single CTC Molecular Analysis

Shukun Chen, Research Assistant, Institute of Cell Biology, Histology & Embryology, Medical University of Graz, Austria

Using a *in vivo* isolation technique we currently immunocytochemically characterize CTCs in high-risk prostate cancer patients. However, CTC analysis needs to go beyond mere immunophenotyping which is why we test a new device allowing the recovery of isolated CTCs for the purpose of molecular analysis. Our *in vitro* study shows that cells captured by the new device, recovered and forwarded to whole genome amplification, array-CGH analysis and next generation sequencing at the single-cell level present with high-quality data, suggesting potential clinical application for personalized medicine.

12:15 Sponsored Presentation *(Opportunity Available)*

12:45 Luncheon Presentation *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

13:15 Session Break

EXISTING TECHNOLOGIES AND UNMET NEEDS

14:15 Chairperson's Remarks

Evi Lianidou, Ph.D., Professor, Analytical Chemistry – Clinical Chemistry, Analysis of Circulating Tumor Cells (ACTC) Lab, Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, Greece

14:20 Development, Validation, and Clinical Applications of Molecular Assays for the Molecular Characterization of CTCs

Evi Lianidou, Ph.D., Professor, Analytical Chemistry – Clinical Chemistry, Analysis of Circulating Tumor Cells (ACTC) Lab, Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, Greece

This lecture will be mainly focused on the analytical systems for CTC molecular characterization and its clinical applications in many types of solid cancer. We will also discuss the potential of the molecular characterization of CTC as a liquid biopsy in individualized therapy. This field has a tremendous potential towards the development of molecular assays with potential utility as companion diagnostics, in disease monitoring, or even for early cancer detection.

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14:50 3D Microdevice for the *in vivo* Trapping of Cancer-Associated Circulating Cells

Aline Cerf, Ph.D., CNRS Researcher, NanoBioSystems, LAAS-CNRS, France

We introduce a unique intravascular 3D micro-system for the selective capture of cancer-associated circulating cells directly from the bloodstream. Our methodology is intended to overcome sampling and selection biases of current circulating tumor cell (CTC) detection systems by placing the microdevice *in vivo*, and by performing CTC trapping based on their physical traits only. Using a fluidic platform reproducing *in vivo* conditions, we succeeded in capturing PC3 human prostate cancer cells from whole blood in just a few minutes, demonstrating our device's capability to capture CTCs in conditions close to those found *in vivo*.

15:20 Role of Epithelial-to-Mesenchymal Transition (EMT) on Circulating Tumor Cell Generation and Metastasis in Prostate Cancer

Alison Allan, Ph.D., Senior Oncology Scientist and Associate Professor, Oncology and Anatomy & Cell Biology, London Regional Cancer Program and Western University, Canada

The U.S. Food and Drug Administration (FDA)-approved CellSearch® system is the current gold standard for CTC enumeration. However, using the CellSearch® approximately 35% of metastatic prostate cancer patients have undetectable CTCs, which may result from the epithelial-to-mesenchymal transition (EMT) and subsequent loss of necessary CTC detection markers. We have developed two pre-clinical assays for assessing human CTCs in xenograft mouse models of metastasis; one that is comparable to the EpCAM-based CellSearch®

15:50 Refreshment Break in the Exhibit Hall with Poster Viewing

CTCs IN PATIENT STRATIFICATION AND THERAPY PREDICTION

16:30 Circulating Tumor Cells (CTC) and Pathological Complete Response (pCR) as Independent Prognostic Factors in Inflammatory Breast Cancer (IBC)

Jean-Yves Pierga, M.D., Ph.D., Circulating Cancer Biomarkers Lab, SiRIC, Translational Research and Medical Oncology, Institut Curie and University Paris Descartes, France

This talk will describe the largest prospective trial in non-metastatic IBC evaluating CTC detection. We observed a high CTC detection rate of 39%, with a strong and independent prognostic value for DFS and OS. Combination of pCR after neoadjuvant treatment, with CTC at baseline, isolates a subgroup of IBC with excellent survival. CTC count should be part of IBC stratification in prospective trials.

17:00 Expansion of Breast Circulating Cancer Cells Predicts Response to Anti-Cancer Therapy

Prashant Kumar, Ph.D., Faculty Scientist, Institute of Bioinformatics, India

This talk will present a new technique that provides an opportunity to analyse CTC clonal heterogeneity and adapt therapeutic modalities in refractory breast cancer patients which may help determine the efficacy of selected therapeutic regimes.

17:30 Clinical Significance of Bone Marrow DTC Detection in Cancer Patients

Nikolay Tupitsyn, M.D., Ph.D., Professor, Oncoimmunology, Haematopoiesis Immunology Lab, Federal State Budgetary Institute, N.N.Blokhin Cancer Research Center, Russia

CTC analysis in cancer patients is now proved to be of great clinical significance. However it cannot fully replace study of bone marrow (BM) DTC. Namely in the bone marrow tumor cells can survive in dormant state for years and decades, then giving rise to distant incurable metastases. We provide data on both detection and clinical significance of DTC in more than 200 patients (breast cancer, ovarian cancer, gastric cancer). While BM is studied excluding hemodilution with the use of modern methods allowing investigation of at least 20 x 106 cells by modern methods, the data received is of great prognostic significance allowing monitoring of treatment protocols efficacy.

18:00 Welcome Reception in the Exhibit Hall with Poster Viewing

19:00 Close of Day One

WEDNESDAY, 6 APRIL

CTCs IN PATIENT STRATIFICATION AND THERAPY PREDICTION (Cont.)

8:00 Registration and Morning Coffee

8:40 Chairperson's Remarks

Julie Lang, M.D., FACS, Associate Professor, Surgery, University of Southern California, United States

8:45 Gene Expression Profiling of Circulating Tumor Cells in Non-Metastatic Breast Cancer

Julie Lang, M.D., FACS, Associate Professor, Surgery, University of Southern California, United States

We hypothesized that transcriptional profiling of CTCs with RNA Seq prior to therapy may predict for pathologic complete response to neoadjuvant chemotherapy in Stage II-III breast cancer. RNA Seq of rare CTCs is feasible in Stage II-III breast cancer and shows evidence of oncogenes and tumor suppressor genes. RNA Seq of CTCs may be performed without background subtraction of leukocytes using our approach. Our preliminary analysis suggests that transcriptional profiling of CTCs may predict for a pathologic complete response to neoadjuvant chemotherapy.

9:15 Molecular Characterization and Genomic Sequencing of Circulating Tumor Cells in Breast Cancer

Aditya Bardia, M.D., Attending Physician, Medical Oncology, Massachusetts General Hospital Cancer Center, United States

Circulating tumor cells (CTCs) can serve as potential "liquid biopsies" offering a potential relatively non-invasive tool for monitoring of breast cancer. We have demonstrated that CTCs can potentially be utilized to monitor response to targeted therapies, to better understand tumor biology, and for the identification of novel actionable targets in breast cancer.

9:45 Sponsored Presentation *(Opportunity Available)*

10:15 Coffee Break in the Exhibit Hall with Poster Viewing

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10:45 How Clinical Biobanks Can Support Standardized CTC Assessment to Improve Individualized Medicine: A CTC Guide to Design and Report Trials

Jens K. Habermann, M.D., Ph.D., Professor & Head, Section of Translational Surgical Oncology and Biobanking; Scientific Director, Surgical Center for Translational Oncology-Lübeck (SCTO-L), University of Lübeck & University Medical Center Schleswig-Holstein (UKSH), Germany

Despite current interstudy heterogeneity, current data indicate that CTC detection is of clinical relevance, e.g., as a surrogate prognostic marker in colorectal cancer treatment. This talk will propose a standardized CTC guideline (CTC Guide) to prospectively design and report studies/trials in a harmonized form to overcome interstudy heterogeneity. This will be crucial before implementing CTC detection into clinical consensus guidelines. Hereby, hospital integrated biobanks can play a pivotal role by building the bridge between basic/translational research and clinical routine.

11:15 PANEL DISCUSSION Advancing Liquid Biopsy to Clinic

Moderator: Aditya Bardia, M.D., Attending Physician, Medical Oncology, Massachusetts General Hospital Cancer Center, United States

- What data/information is needed?
- What are the needs of clinicians?
- How should earlier stage patients be handled?
- How can the process be standardized?

Panelists: Ellen Heitzer, Ph.D., Assistant Professor, Institute of Human Genetics, Medical University Graz, Austria

Evi Lianidou, Ph.D., Professor, Analytical Chemistry – Clinical Chemistry, Analysis of Circulating Tumor Cells (ACTC) Lab, Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, Greece

Nikolay Tupitsyn, Oncoimmunology, Haematopoiesis Immunology Lab., Federal State Budgetary Institute, N.N.Blokhin Cancer Research Center, Russia

11:45 Close of Conference

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AMP Association for Molecular Pathology

ESCMID European Society of Clinical Microbiology and Infectious Diseases

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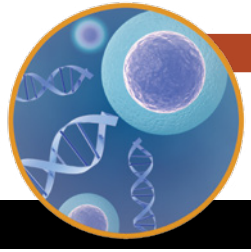

Second Annual

6-7 April 2016

Circulating Cell-Free DNA

Strategies for Bringing Liquid Biopsy to the Clinic

WEDNESDAY, 6 APRIL

12:00 – 13:00 Registration

EARLY STAGE DISEASE DETECTION

13:00 Chairperson's Opening Remarks
Daniel Grosu, M.D., MBA, CMO, Sequenom, Inc., United States

» 13:05 KEYNOTE PRESENTATION: NOVEL METHODS FOR ENRICHMENT OF MUTATIONS AND DIFFERENTIALLY METHYLATED SEQUENCES FROM LIQUID BIOPSY GENOMES

G. Mike Makrigiorgos, Ph.D., Professor, Radiation Oncology, Dana Farber and Harvard Medical School, United States

We present Nuclease-assisted-Mutation-Enrichment, NaME, a simple and powerful approach to remove wild-type DNA from large gene-pools simultaneously, in order to focus on clinically relevant DNA alterations. This single-step approach retains current sample preparation protocols almost unchanged and combines seamlessly with downstream technologies such as HRM, COLD-PCR, ddPCR and next-generation-sequencing. Application in clinical samples and liquid biopsies will be presented.

13:35 Enhanced Sensitivity for Cell-Free Tumour DNA Analysis Using Multiple Patient-Specific Assays
Charlie Massie, Ph.D., Senior Research Associate, Cancer Research UK Cambridge Institute, University of Cambridge, United Kingdom

Circulating cell-free tumour DNA (ctDNA) can be assayed using hotspot assays, gene panels, or genome-wide sequencing. However, in early cancers or post-therapy ctDNA levels can be very low. In late-stage disease, individual mutations may not represent dynamics of heterogeneous clones. We developed a combined workflow to measure multiple mutations in parallel. This provides greater sensitivity over single mutation assays, and can provide a detailed picture of clonal evolution.

14:05 Urine Cell-Free DNA Integrity Analysis for the Early Detection of Bladder and Prostate Cancer
Valentina Casadio, Ph.D., Researcher, IRCCS Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori(I.R.S.T.) S.r.l., Italy

The presence of circulating cell-free DNA in plasma or serum has been reported to be a promising diagnostic marker for several tumor types but few studies have focused on the potential of urine cell-free (UCF) DNA to detect urological cancers. The objective of our research was to evaluate the potential role of UCF DNA integrity as a marker for the early diagnosis of prostate and bladder cancer. We highlighted the potential usefulness of UCF DNA to detect and characterize urologic malignancies.

14:35 Refreshment Break in the Exhibit Hall with Poster Viewing

ASSAY SENSITIVITY AND SPECIFICITY

15:15 Recent Technological Advances in the Analysis of ctDNA – Are We Ready for Clinical Use?
Ellen Heitzer, Ph.D., Assistant Professor, Institute of Human Genetics, Medical University Graz, Austria

The potential of the liquid biopsy in the field of clinical cancer research is being clearly recognized. However, cfDNA is a challenging analyte owing to the high degree of fragmentation and the highly variable allele frequencies of ctDNA in the circulation. Owing to technological advances, the analytical sensitivity and the specificity of detection improved dramatically in recent years and new technologies now allow the identification of mutant alleles at very low frequencies. Advantages and limitations of these technologies will be summarized and discussed.

15:45 Identification of Rare and Subclonal Mutations and Their Impact on Personalized Cancer Treatment Using Enhanced-ice-COLD-PCR
Jorg Tost, Ph.D., Director, Laboratory for Epigenetics & Environment, Centre National de Genotypage, CEA - Institut de Genomique, Evry, France

We developed a complete workflow for extraction, characterization and quality control of ccFDNA from small amounts of plasma. We have further developed a modified version of the ice-COLD-PCR assay called Enhanced-ice-COLD-PCR for KRAS, BRAF and NRAS mutation detection and identification, which allows the enrichment of the most frequent mutations and requires only a small amount of starting material permitting the sensitive detection and sequence identification of mutations within three hours.

16:15 Clinical Validation of the Analysis of Circulating DNA for Theragnostics and Multiparametric Strategy for Cancer Patients Follow-Up
Alain R. Thierry, Ph.D., Senior Investigator, Research Institute in Oncology of Montpellier, INSERM, France

Circulating DNA and Cancer: Clinical validation of the detection of point mutations, and of the longitudinal metastatic colorectal patient follow-up for detecting emergence of resistance to targeted therapy. Data of two blinded clinical studies will be described highlighting the need of ultrasensitive assay and of a multi-parametric strategy for analyzing circulating DNA.

16:45 Close of Day One

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THURSDAY, 7 APRIL

WORKING WITH DIFFERENT SAMPLE TYPES

8:00 Registration

8:30 Breakfast Presentation *(Sponsorship Opportunity Available)* **or Morning Coffee**

9:00 Chairperson's Remarks
Hatim Husain, M.D., Physician, Medical Oncology, University of California, San Diego, United States

9:05 Epigenetic Biomarker Profiling in Serum- and Saliva-Derived Exosomes
Christa Noehammer, Ph.D., Senior Scientist, Austrian Institute of Technology GmbH, Austria
Exosome-mediated cell-to-cell communication is of importance in both health and disease. Together with the finding that tumor-derived exosomes contain a specific RNA and protein cargo, this holds tremendous potential for exosomes as biomarkers for minimally invasive diagnostics. Along these lines we report on the evaluation of different strategies for exosome isolation and present data from genome-wide microRNA – and DNA-methylation microarrays, which showed a significant overlap of both microRNA- and DNA methylation profiles when comparing serum - with saliva-derived exosomes in healthy individuals.

9:35 Urine DNA Testing for Early and Non-Invasive Detection of Bladder Cancer
Per Guldberg, Ph.D., Group Leader, Danish Cancer Society, Denmark
The current gold standard for detecting bladder tumors is cystoscopy, an invasive and expensive method that requires dedicated hospital sites and well-trained operators. This paper discusses new developments that make urine DNA testing a powerful non-invasive tool for bladder cancer detection and surveillance. It also discusses the potential of urine DNA testing for preclinical detection of bladder cancer, to reduce mortality and economic cost.

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10:05 Presentation to be Announced

Sponsored by VOLITION RX

10:20 Nucleosomics®-Revolutionising Cancer Diagnostics
Mark Eccleston, MBA, Business Development Director, Belgian Volition, A Volition Company, Belgium
Nucleosomics® is an immunoassay epigenetic profiling approach for novel blood-based biomarker development. Cell free nucleosomes include histone modifications and variants, DNA modifications and adducts between nucleosomes and non-histone proteins which can be correlated with clinical disease and overcomes a major limitation of simple nucleosome quantification for diagnostic and prognostic use.

10:35 Coffee Break in the Exhibit Hall with Poster Viewing

11:15 Dynamic Changes in EGFR Mutation Circulating Tumor DNA in Urine on Anti-EGFR Therapy
Hatim Husain, M.D., Physician, Medical Oncology, University of California, San Diego, United States
We have been able to monitor early drug response to anti-EGFR therapy to model tumor lysis. We will be presenting data on pretreatment kinetics and dynamic changes in ctDNA for patients on therapies directed against KRAS. The data presented will be evaluating urine as a modality for monitoring ctDNA.

11:45 Epigenetically Altered Circulating Nucleosomes - Validation of a New Screening Paradigm for Cancer
Marielle Herzog, Ph.D., Lead Scientist, Nucleosomics, Belgian Volition, Belgium
Genome-wide epigenetic signals are altered in cancer cells. We have developed ELISA tests for circulating nucleosomes (NuQ®) and show that the profile of epigenetic features, including histone modifications and variants, DNA modifications can be correlated with clinical disease and overcomes a major limitation of simple nucleosome quantification for diagnostic and prognostic use. We present the results of a large clinical study using a cohort of several thousand subjects for a novel NuQ® based CRC diagnostic test.

12:15 Plasma DNA Sequencing Using a Comprehensive NGS Panel as a Tissue Biopsy Surrogate
Sponsored by sequenom
Daniel Grosu, M.D., MBA, CMO, Clinical and Medical Affairs, Sequenom, Inc., United States
The use of "liquid biopsies" for profiling potentially actionable genomic alterations, when biopsy material is not available, is a rapidly emerging application in Oncology. We review the performance of a comprehensive panel that interrogates several classes of genomic alterations in a large number of cancer-related genes across multiple tumor types.

12:30 Sponsored Presentation *(Opportunity Available)*

12:45 Luncheon Presentation *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

13:15 Session Break

14:15 Dessert Break in the Exhibit Hall with Poster Viewing

ctDNA IN PATIENT STRATIFICATION AND THERAPY PREDICTION

14:55 Chairperson's Remarks
David I Smith, Ph.D., Professor, Laboratory Medicine and Pathology; Chairman, Technology Assessment Group, Center for Individualized Medicine, Mayo Clinic, United States

15:00 Mate-Pair Sequencing of Oropharyngeal Squamous Cell Carcinoma Identifies Cancer-Specific Markers to Enable Liquid Biopsies to Monitor Patients
David I Smith, Ph.D., Professor, Laboratory Medicine and Pathology; Chairman, Technology Assessment Group, Center for Individualized Medicine, Mayo Clinic, United States
Mate-pair sequencing is a very powerful tool to characterize molecular alterations that occur during the development of cancer. We have been performing mate-pair sequencing of oropharyngeal squamous cell carcinomas, a cancer that has seen an epidemic increase due to human papillomavirus. The data provided by mate-pair sequencing can determine when and where HPV integrates into these cancers. We will describe how we plan to use mate-pair sequencing as a clinical test for these cancer patients.

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15:30 Using Droplets to Highlight and Follow Cancer Genetic Markers

Valerie Taly, Ph.D., Group Leader, CNRS Researcher, UMR S1147, University of Paris Descartes, France

Droplet-based digital PCR allows the highlighting of rare genetic events with an unprecedented sensitivity. After a rapid technical presentation, application of this methods for cancer patient follow-up will be presented.

16:00 Tumor Genome Monitoring by Whole Genome Sequencing of Plasma DNA

Michael R. Speicher, M.D., Professor and Chairman, Institute of Human Genetics, Medical University of Graz, Austria

Liquid biopsies, i.e. the analyses of circulating tumor cells (CTCs) or circulating tumor DNA (ctDNA), are evolving to promising tools for monitoring changes in cancer genomes non-invasively. We establish genome-wide copy number profiles of the tumor by whole-genome sequencing from plasma of patients with cancer at a shallow sequencing depth and sequence high-interest genes with high coverage. Data of patients with breast, colon, lung, and prostate carcinoma will be presented.

16:30 Presentation to be Announced

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17:00 Refreshment Break

17:15 Monitoring Cell Free DNA in Patients Receiving Selective Internal Radiation for Liver Metastases and Intrahepatic Cholangiocarcinoma

Helen Winter, M.D., Clinical Research Fellow, Oncology, University of Oxford, United Kingdom

Preliminary results of cfDNA from PERFORM, a prospective imaging biomarker study in which 21 patients with liver malignancies have undergone selective internal radiation therapy (SIRT) as management for metastatic liver dominant disease are presented.

17:45 Circulating Free DNA in Metastatic Colorectal Cancer

Karen-Lise Garm Spindler, M.D., Ph.D., Specialist GI Oncologist, Aarhus University Hospital; Associate Professor, Oncology, Institute of Clinical Medicine, Aarhus University, Denmark

Colorectal tumors harbour a high frequency of clinically relevant genetic alteration, which are readily detected in the cfDNA, and suggested for tailoring palliative therapy, and monitoring during treatment. The total levels of cell free DNA in itself seems to hold strong prognostic value. This presentation will give an overview of both methodological, biological and clinical aspects of cfDNA and tumor specific mutations in metastatic colorectal cancer, based on the most current data.

18:15 Close of Conference

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CONFERENCE SELECTIONS

Monday-Wednesday, 4-6 April	Wednesday-Thursday, 6-7 April
Advances in Prenatal Molecular Diagnostics	Reproductive Genetic Diagnostics
Tuesday-Wednesday, 5-6 April	**Wednesday-Thursday, 6-7 April**
Advanced Diagnostics for Infectious Disease	Point-of-Care Diagnostics
Circulating Tumour Cells	Circulating Cell-Free DNA

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