

FINAL AGENDA

Day 1: Sunday, October 28th, 2012

16:30 – 18:00 : Registration

18:00 – 20:30 : Welcome and Opening Reception

18:00 – 19:00 : Hors d'oeuvres and Hosted Bar

19:00 – Mike Epton – Welcome!

KEYNOTE SPEAKER – Terence Risby – "Breath Analysis: Past, Present and Future. A Personal Perspective."

Day 2: Monday, October 29th, 2012

08:00 – 09:00 : Registration and Continental Breakfast

09:00 – 09:15 : Welcome & Introduction to 2012 Workshop – Nick Kenyon – “Clinical Breath Testing as a Multidisciplinary Field: Engineers, Clinicians, Scientists and Entrepreneurs.”

09:15 – 09:45 : PLENARY SPEAKER – Jochen Schubert – “Biomarkers and Non-Invasive Biomedical Analysis – Sisyphean Task or Question of Effort?”

09:45 – 10:00 : Questions & Discussion

Clinical Session 1: Tuberculosis and Other Infections (10:00-12:00)

SESSION CHAIRS AND MODERATORS: Mike Epton and Ryan Leib

10:00 – 10:20 : KEYNOTE SPEAKER – Michael Phillips – “Breath Biomarkers of Tuberculosis”

10:20 – 10:30 : Questions & Discussion

10:30 – 11:00 : Morning Coffee Break

11:00 – 11:15 : Amy Scott-Thomas – “Markers Of Tuberculosis Infection”

11:15 – 11:20 : Questions

11:20 – 11:35 : Niaz Banaei – “Detection of Tuberculosis-Specific VOCs with a Colorimetric Sensor Array”

11:35 – 11:40 : Questions

11:40 – 11:50 : Swomitra Mohanty – “TiO₂ Nanotube Based Volatile Biomarker Sensor for Non-Invasive Diagnosis of Tuberculosis”

11:50 – 12:00 : Questions and Session Discussion

Lunch (12:00 - 13:15)

Scientific Session and Panel Discussion (13:15-15:20)

SESSION CHAIRS AND MODERATORS: Wolfram Miekisch and Cristina Davis

13:15 – 13:45 : 30 minute panel session, questions and open discussion – *“What are the open ‘hard’ questions in our field?”*

13:45 – 14:05 : Gerard Wysocki – “A Novel Breath Analyzer for Isotope-Labelled Studies of NO Metabolism”

14:05 – 14:10 : Questions

14:10 – 14:25 : Perena Gouma – “Personalized Breath Diagnostics Based on Selective Chemosensors”

14:25 – 14:30 : Questions

14:30 – 14:45 : Katrine Whiteson – “Breath Gases as Biomarkers in Cystic Fibrosis”

14:45 – 14:50 : Questions

14:50 – 15:05 : Ryan Leib – “Temporal Evolution of Metabolites in Breath”

15:05 – 15:10 : Questions

15:10 – 15:40 : Afternoon Coffee Break

Scientific Session: Off-Line Methods, Pre-Concentration, Sampling (15:40-17:10)

SESSION CHAIRS AND MODERATORS: Michael Phillips and Mike Schivo

15:40 – 16:00 : KEYNOTE SPEAKER – Raed Dweik – “Off-line Testing for Volatiles - Strengths and Weaknesses”

16:00 – 16:10 : Questions

16:10 – 16:25 : Yoshihiro Saito – “Miniaturized Sample Preparation Needle for Human Breath Analysis in Capillary Gas Chromatography”

16:25 – 16:30 : Questions

16:30 – 16:45 : Dietmar Hein – “Needle Trap Extraction of Traces of VOC from Exhaled Breath – A Critical Review”

16:45 – 16:50 : Questions

16:50 – 17:05 : Mark Zondlo – “Overcoming the Sampling Challenges of Ammonia in Exhaled Breath”

17:05 – 17:10 : Questions

17:10 – 17:20 : Coffee Break

Industry Keynote Session (17:20-18:00)

SESSION CHAIRS AND MODERATORS: Michael Phillips and Mike Schivo

17:20 – 17:50 : Presentation by Pascal Girard (Oracle, Inc.) – “How to Deal with Big Data: Oracle’s new work with the National Cancer Institute, and how it could help the breath analysis community.”

17:50 – 18:00 : Questions and discussions

Industry Session and Product Development Demonstrations (18:00-18:40)

SESSION CHAIR AND MODERATOR: Michael Phillips and Mike Schivo

18:00 – 18:15 : Rafi Baddour (Respiratory Research, Inc.) – “Breath Collection at the Home, Job Site, Clinic, and ICU”

18:15 – 18:20 : Questions

18:20 – 18:35 : Zvi Yaniv (Applied Nanotech, Inc.) – “EZKnowz - From Life Science Applications to Healthcare”

18:35 – 18:40 : Questions

18:30 – 20:30 Industry sponsored reception (*Hors d’oeuvres and Hosted Bar*) including posters and technology showcase.

Day 3: Tuesday, October 30th, 2012

08:00 – 09:00 : Registration and Continental Breakfast

Scientific Session: Environment, Biohazards and Biosecurity (09:00-10:30)

SESSION CHAIRS AND MODERATORS: Jane Hill and Terence Risby

09:00 – 09:20 : *KEYNOTE SPEAKER* – Joachim Pleil – “Exhaled Breath Aerosols: Investigations of Inflammatory Proteins and Opportunistic Infections for Environmental Health”

09:20 – 09:25 : Questions

09:25 – 09:45 : Laura Yeates and Cristina Davis (joint collaborative talk) – “Breath Diagnostics and Pulmonary Lung Function Measures for the US Navy Marine Mammal Program”

09:45 – 09:50 : Questions

09:50 – 10:05 : Matthias Frank – “Exploring National Security Applications of Breath Analysis”

10:05 – 10:10 : Questions

10:10 – 10:25 : Ron Manginell – “Handheld Vapor Analyzers for Portable Chemical and Biological Detection”

10:25 – 10:30 : Questions

Scientific Session: New Detection Technologies and Regulatory Issues (10:45-13:30)

SESSION CHAIRS AND MODERATORS: Joanne Shorter and Rafi Baddour

10:30 – 10:50 : KEYNOTE SPEAKER – Gary Hunter – “Smart Sensor Systems for Human Health and Safety Applications”

10:50 – 11:00 : Questions

11:00 – 11:15 : Morning Coffee Break

11:15 – 11:35 : KEYNOTE SPEAKER – Anil Modak – “Regulatory Issues of Breath Tests and Updates of Recent Advances”

11:35 – 11:45 : Questions

11:45 – 12:00 : Jean- Jacques Zondy – “Widely Tunable, Narrow Linewidth CW Single-Frequency Optical Parametric Oscillators for Mid-IR Molecular Spectroscopy and Trace Molecular Detection”

12:00 – 12:05 : Questions

12:05 – 12:20 : Laurence Hrubesh – “Pure Rotational Spectrometry: A Vintage Analytical Method Applied to Modern Breath Analysis”

12:20 – 12:25 : Questions

12:25 – 12:40 : Konstantin Vodopyanov – “Frequency Comb Laser Instrument for Real-Time Breath Analysis via Multi-Analyte Detection”

12:40 – 12:45 : Questions

12:45 – 13:00 : Jim Kelly – “Improving a capillary absorption spectrometer for precision stable carbon isotope ($^{13}\text{C}/^{12}\text{C}$) studies with small samples”

13:00 – 13:05 : Questions

13:05 – 13:20 : Cristina Achim – “Breath Analysis by Laser Photoacoustic Spectroscopy Method”

13:20 – 13:30 : Questions and Discussion for the Session

Boxed Lunch – Time for attendees to meet in small groups for discussion, informal collaborative talks, or explore the area.

AFTERNOON OFF: 13:30 – 18:00

18:00 – 21:30 : Official Conference Dinner – Invited Speaker Dr. Joachim Pleil (EPA)

18:00 – 19:00 : Hosted Bar indoor/outdoor on the patio

19:00 – Dinner seating

Day 4: Wednesday, October 31st, 2012

08:00 – 09:00 : Registration and Continental Breakfast

Clinical Session – Lung Cancer and Other Malignancies (09:00-11:10)

SESSION CHAIRS AND MODERATORS: Malina Storer and Amy Gryshuk

09:00 – 09:20 : *KEYNOTE SPEAKER* – Peter Mazzone – “Breath Analysis and Cancer – Where Have We Gotten To and Where Are We Going?”

09:20 – 09:25 : Discussion and Questions

09:25 – 09:40 : Matthew McCurdy – “Exhaled Breath Analysis to Detect Lung Toxicity During Cancer Treatment”

09:40 – 09:45 : Questions

09:45 – 10:00 : Meggie Hakim – “Screening and Detection of Lung Cancer via Breath Analysis”

10:00 – 10:05 : Questions

10:05 – 10:20 : Patrick McCann – “The Warburg Effect: Can Measurement of Gas Phase Metabolites Enable Better Cancer Detection?”

10:20 – 10:25 : Questions

10:25 – 10:40 : Paul Rhodes – “Advances in Colorimetric Sensors and Preliminary New Results in Lung Cancer Detection from Breath”

10:40 – 10:45 : Questions

10:45 – 11:00 : Daya Upadhyay – “Exhaled Breath MicroRNAs, a Novel Non-Invasive Detection of Biological Targets of Lung Cancer”

11:05 – 11:10 : Questions

11:10 – 11:25 : Morning Tea

Scientific Session (11:25-12:35)

SESSION CHAIRS AND MODERATORS: Mike Epton and Ben Brockway

11:25 – 11:45 : *KEYNOTE SPEAKER* – Wolfram Miekisch – “Take The Long Way Home - From Hyphenated Analytics to Diagnostic Applications”

11:45 – 11:55 : Questions

11:55 – 12:10 : Marco Righettoni – “Breath Acetone Monitoring by Portable Si:WO₃ Gas Sensors”

12:10 – 12:15 : Questions

12:15 – 12:30 : Chuji Wang – “When Will an Acetone Breath Analyzer be Ready for Diabetes Diagnostics and Monitoring?”

12:30 – 12:35 : Questions

Lunch (12:35 - 13:30)

Clinical Session: Infections and Metabolism (13:30-15:15)

SESSION CHAIRS AND MODERATORS: Joachim Pliel and Amy Scott-Thomas

13:30 – 13:50 : KEYNOTE SPEAKER – Jane Hill – “Determining Infection Agent Identity in the Lung Through Breath Analysis”

13:50 – 13:55 : Questions

13:55 – 14:10 : Michael Schivo – “Distinguishing Uninfected from Human Rhinovirus-Infected Bronchial Epithelial Cells Using Volatile Organic Compound Analysis”

14:10 – 14:15 : Questions

14:15 – 14:25 : Alexander Aksenov – “Cell-Based Systems for *In Vitro* Volatile Profiling of Infectious Agents: A Case Study with Influenza Viruses”

14:25 – 14:30 : Questions

14:30 – 14:45 : Ana Guamán – “Detection of Sepsis by Breath Analysis Using Ion Mobility Spectrometry: Study Based on an Animal Model”

14:45 – 14:50 : Questions

14:50 – 15:05 : Juliane Obermeier – “Detection of Volatile Aldehydes and Inflammation Markers in Breath by Means of Electrochemical Sensors”

15:05 – 15:15 : Questions and Session Discussion

15:15 – 15:45 : Afternoon Tea

Scientific Session: New Sensor Platforms (15:45-17:05)

SESSION CHAIRS AND MODERATORS: Jochen Schubert and Raed Dweik

15:45 – 16:00 : Tim Burch – “Sensor Devices Applied to Breath Diagnostics Research”

16:00 – 16:05 : Questions

16:05 – 16:20 : Piotr Maslowski – “Cavity-Enhanced Direct Frequency Comb Spectroscopy for Human Breath”

16:20 – 16:25 : Questions

16:25 – 16:40 : Joanne Shorter – “Advances in Infrared Laser Spectroscopy and its Application to Breath Analysis”

16:40 – 16:45 : Questions

16:45 – 17:00 : Ami Hannon – “A Tetracorder for Chemical Detection – Potentially for Medical Diagnosis”

17:00 – 17:10 : Questions and Session Discussion

17:10 – 17:20 : Coffee Break

Industry Session and Product Development Demonstrations (17:20-18:20)

SESSION CHAIR AND MODERATOR: Matthias Frank

17:20 – 17:35 : Brad Keays (SOBERLINK, Inc.) – “Mobile Platforms and Telemetry for Breath Sobriety Testing”

17:35 – 17:50 : Alice Kwan (Scanadu, Inc.) – “Personal Mobile Devices for Pulmonary Lung Function Measurements”

17:50 – 18:05 : Jan Willem Gerritsen (The eNose Company) – “Mass Applicable Electronic Nose for Exhaled-Breath Analysis”

18:05 – 18:15 : Panel Discussion and Session Questions

Hardware Development and Novel Sensors (Q&A planned at posters) (18:20-19:10)

SESSION CHAIRS AND MODERATOR: Matthias Frank

18:15 – 18:25 : Brian Ross – “Lack of Influence of Fatty Acid Abundance Upon Fatty Acid Derived Oxidative Stress Markers in Breath”

18:25 – 18:35 : Hae-Wook Yoo – “Development of a Chemiresistor Pt Nanowire Array”

18:35 – 18:45 : Henrique Couto – “Breath Analysis: Ways to Success Go Beyond Science”

[18:45 – 18:55 : Meixiu Sun – “Breath Analysis Research in China” (TBD)]

18:45 – 20:30 Industry sponsored reception (*Hors d’oeuvres and Hosted Bar*) including posters and technology showcase.

Day 5: Thursday, November 1st, 2012

08:00 – 09:00 : Registration and Continental Breakfast

09:00 – 09:15 : Meeting Recap – Cristina Davis – “What Does the Path Forward for Our Field Look Like?”

Scientific Session: Volatiles and Bowel Disease (09:15-10:15)

SESSION CHAIRS AND MODERATORS: Nick Kenyon and Alex Aksenov

09:15 – 09:30 : KEYNOTE SPEAKER – Norman Ratcliffe – “Analyses of VOCs From Stool and Urine for Disease Diagnoses”

09:30 – 09:35 : Questions

09:35 – 09:50 : Ross Butler – “The Importance of Gases and Volatiles in Breath to Define the Status of the Gut Microbiome - Examples in Different Populations of Infants.”

09:50 – 09:55 : Questions

09:55 – 10:10 : Frederik-Jan Van Schooten – “Multivariate Analysis of Volatile Organic Compound Profiles in Inflammatory Bowel Disease”

10:10 – 10:15 : Questions

10:15 – 10:45 : Morning Coffee Break

Scientific Session: Breath Analysis in the ICU (10:45-12:30)

SESSION CHAIRS AND MODERATORS: Gary Hunter and Perena Gouma

10:45 – 11:00 : Sharon Sturney – “Off-line Breath Acetone Analysis in Critically Ill Patients”

11:00 – 11:05 : Questions

11:05 – 11:20 : Michael Davis – “Continuous Exhaled Breath Condensate pH Analysis in Mechanically Ventilated Adults”

11:20 – 11:25 : Questions

11:25 – 11:40 : Alison Montpetit – “Evaluation of Exhaled Breath Condensate Matrix Effect in the Measurement of Cytokines by Multiplex Bead Assay”

11:40 – 11:45 : Questions

11:45 – 12:00 : Pierre Bouzi – “Quantum Cascade Lasers for Sensing Applications”

12:00 – 12:05 : Questions

12:05 – 12:15 : William Cheung – “Exhale Breath Condensate Screening for Drugs of Abuse.”

12:15 – 12:20 : Questions

12:20 – 12:30 : Feedback and Final Discussion – Conference ideas for the future?

12:30 : Conference Closure and Final Comments – Mike Epton