

13th International Conference

Breath Summit 2022



June 12 – 15, 2022

Pisa, Italy

iabr.dcci.unipi.it

Organizers



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Informations for speakers and poster presenters

Badges and face masks

The conference badges must be worn at all times during the conference, whereas face masks need to be worn indoor with the exception of coffee and lunch breaks. Access to the conference venue will not be granted without the name badge issued by the conference organizers.

Speakers

Please email your presentation to the organizingcommittee@breathsummit2022.it or bring it to the registration desk on an USB stick at least one day before your talk. You can also give your presentation to the technician of the room during a coffee or lunch break, at least 15 min before the start of your session. We do not allow the use of personal laptops. At the end of the conference, all presentations will be deleted.

Poster presenters

Posters can be mounted from Sunday at 14:30, and the personnel at the registration desk will provide you all the necessary equipment. Posters should be removed at the end of the conference, no later than Wednesday 16:00.

Sunday		June 12, 2022
14:30	Registration opens	
16:00	Opening ceremony (Fabio Di Francesco, Cristina Davis)	
	Session I: From Crete to Pisa – Two decades of breath research	
16:10	<i>Nandor Marczin</i> : Role of the Crete NATO Advanced Study Institute in collaborative breath analysis	
16:30	<i>Marieann Högman</i> : From Crete to Pisa – what has happened in NO research	
16:50	<i>Wolfram Miekish</i> : Two decades of breath analysis for critical illness	
	Plenary Lecture I	
17:20	<i>Anil Modak</i> : Why have only a handful of breath tests made it into clinical practice?	
17:50	<i>George Hanna</i> : Breath analysis at the frontiers of cancer research	
18:20	Transfer to the “Piazza dei Miracoli”	
19:45	Welcome Cocktail: DOMUS COMELIANA at “Piazza dei Miracoli”	

08:30	Registration opens	
09:00	Plenary Lecture II <i>Jane Hill: New Frontiers: Introducing the Human Breath Atlas</i> Chair: Fabio Di Francesco	
	Auditorium	Room 27
	S2: Breath biomarkers of SARS-CoV-2 infection	S3: Spectroscopic methods for breath analysis
	Chairs: <i>Renelle Myers & Makoto Sawano</i>	Chairs: <i>Andreas Güntner & Ines Weber</i>
09:30	<i>Makoto Sawano: RT-PCR diagnosis of Covid-19 from EBC - wild-type and delta variant</i>	<i>Nick Rothbart: Human breath analysis by millimeter-wave gas spectroscopy</i>
09:50	<i>Rasmus Remy: Profiling of exhaled volatile organics in the screening scenario of a Covid-19 test centre</i>	<i>Mike Mirov: Cr:ZnS laser-based dual comb spectroscopy: a novel platform for breath analysis</i>
10:10	<i>Madiha Malik: The potential of exhaled breath analysis in detection of SARS-CoV-2</i>	<i>Miloš Selaković: Rapid spectroscopic detection of VOC's with electrically tunable quantum-cascade lasers</i>
10:30	<i>Veronika Pospisilova: Development of an immediate diagnosis of Covid-19 by means of on-line mass spectrometry</i>	<i>Gunnar Johanson: Diagnosis of acute cyanide intoxication among fire victims by breath analysis</i>
10:50	Coffee break & Exhibition	
	S2: Breath biomarkers of SARS-CoV-2 infection	S4: Sensors and sensor systems
	Chairs: <i>Renelle Myers & Makoto Sawano</i>	Chairs: <i>Rosamaria Capuano & Nick Rothbart</i>
11:20	<i>Renelle Myers: Breath testing for mild SARS CoV-2 infection</i>	<i>Ines Weber: Metabolic health monitoring through breath acetone detection with compact sensors</i>
11:50	<i>Amalia Berna: Discovery and clinical validation of breath biomarkers of SARS-CoV-2 infection in children</i>	<i>Andreas Güntner: Screening methanol poisoning with a portable breath detector</i>
12:10	<i>Nicholas Kenyon: Diagnosis of SARS-CoV-2 infection from exhaled breath volatiles using GC-MS</i>	<i>Alexander Pospelov: New express method for real-time breath analysis with quantum point-contact sensors</i>
12:20	<i>Laura Miles: Breathing new life into data quality (Markes)</i>	<i>Gennadii Kamarchuk: Quantum point-contact sensors - new mechanisms and concepts for real-time breath analysis</i>
12:40		<i>Rosamaria Capuano: Colorectal cancer detection by breath analysis using a gas sensor array - a preliminary study</i>
13:00	Lunch break	

Monday (afternoon)		June 13, 2022
	Auditorium	Room 27
	S5: Standardization of breath collection and instrumentation	S6: Breath biomarkers of microbial infections
	Chairs: <i>Paul Thomas & Sean Harshman</i>	Chairs: <i>Jane Hill & Patricia Fuchs</i>
14:30	<i>Jens Herbig</i> : Variability of breath-borne volatiles – curse or blessing?	<i>Agnieszka Smolinska</i> : Non-invasive breath collection in murine models - an optimization and case study on abdominal sepsis
14:50	<i>Sean Harshmann</i> : A searchable food and drink related volatile organic compound library for exhaled breath contaminant determination	<i>Antao Gao</i> : Identification of <i>Burkholderia pseudomallei</i> infection using patient breath
15:10	<i>Y. Lan Pham</i> : Uptake and emissions of volatiles from materials used in-line during breath sampling	<i>Patricia Fuchs</i> : Monitoring of VOC-profiles during <i>Streptococcus suis</i> infection in pigs
15:30	<i>Karl Unterkofler</i> : Understanding patterns and variations in breath gas concentrations - what we can learn from modeling	<i>Nele Kemnitz</i> : Mass spectrometric breath screening of patients with pulmonary bacterial infections
15:50	<i>Kavita Jeerage</i> : Multicomponent gas standards for breath biomarker analysis	<i>Waqar Ahmed</i> : Targeting microbial volatiles as biomarkers of lung infection in the ICU
16:10	<i>Chad Schaber</i> : Towards Standardization - Breath Biopsy® OMNI Assay for Enhanced Biomarker Discovery	
Coffee break & Exhibition		
17:00	Flash poster presentations (see following page)	

	Auditorium	Room 27
17:00	Flash poster presentations (3 min talk – ppt slides)	Flash poster presentations (3 min talk – ppt slides)
	Chair: <i>Dr. Pietro Salvo</i>	Chair: <i>Dr. Denise Biagini</i>
	<p><i>Marek Jackowski</i>: Protocols for colorectal cancer biomarkers</p> <p><i>Mahya Khaki</i>: The predictive value of the heart rate response to breathing maneuvers for significant coronary artery disease</p> <p><i>Agapios Agapiou</i>: VOCs and PM in confined environments</p> <p><i>Tanja Z. Semren</i>: Workflow development for real-time exhaled breath analysis by secondary electrospray ionization coupled to high resolution mass spectrometry</p> <p><i>Tara M. Lovestead</i>: A pilot study to determine if THC can be detected in breath aerosols collected from legal market cannabis users with an impaction filter device</p> <p><i>Marilena G. Quartz</i>: enhanced photoacoustic detection of ammonia in exhaled breath</p> <p><i>Giuseppe Ferrandino</i>: Pre-clinical exogenous volatile organic compounds (EVOCs) Probes screening and optimization for chronic liver diseases detection</p> <p><i>Marieann Högman</i>: Alveolar nitric oxide in COPD – a 2-year follow-up</p> <p><i>Leo Rührmund</i>: Data visualization for real time mass spec-based breath analysis in clinical setups</p> <p><i>Cedric Wüthrich</i>: Online SESI-HRMS breath analysis after a nutritional intervention challenge</p> <p><i>David M. Fothergill</i>: Exhaled breath condensate profiles of US Navy divers following prolonged hyperbaric oxygen (HBO) and nitrogen-oxygen (Nitrox) chamber exposures</p>	<p><i>Ning Sun</i>: A core breath profile of healthy non-human primates</p> <p><i>Simonetta Capone</i>: Analysis of urinary volatile organic compounds by electronic nose and GC/MS for prostate cancer diagnosis</p> <p><i>Austin Meister</i>: Detection of SARS-CoV-2 Omicron infection in exhaled breath from out-patients with mild respiratory symptoms</p> <p><i>Francesco Segrado</i>: Mass spectrometry profiling of exhaled breath of smokers to identify a signature related to tobacco use</p> <p><i>David J. Mager</i>: Towards targeted exhaled breath analysis for young children in CF care to detect bacteria in the lungs</p> <p><i>Dominic Sandhu</i>: Utilising computational methods to determine an idealised lung clearance index</p> <p><i>Joris Meurs</i>: Development and validation of a proton transfer reaction – time-of-flight – mass spectrometry (PTR-ToF-MS) method for analysis of short-chain fatty acids (SCFAs) in exhaled breath</p> <p><i>Raj Attariwala</i>: Correlation of breath and blood cannabis levels using custom-made breath sample collection and analysis method</p> <p><i>Evangelia Sakkoula</i>: Monitoring dietary status and cognitive functioning in children through exhaled breath analysis</p> <p><i>Pritam Sukul</i>: Recommended methods for safe breath analysis under highly infectious respiratory conditions</p> <p><i>Sean W. Harshman</i>: Investigation of an individual with low exhaled isoprene</p>
17:30	Poster session	

Tuesday (morning)		June 14, 2022
08:30	Registration opens	
09:00	Plenary Lecture III <i>Cristina Davis</i> : Volatiles in biological systems shift with disease state - a universal paradigm connecting human and animal breath analysis to plant and agriculture diagnostics Chair: Fabio Di Francesco	
	Auditorium	Room 27
	S7: Breath tests targeting unmet clinical needs	S8: Data analysis and interpretation
	Chairs: <i>Jochen Schubert & Inger Lise Gade</i>	Chairs: <i>Agi Smolinska & Robert van Vorstenbosch</i>
09:30	<i>Tobias Walser</i> : Zurich Exhalomics - breath analysis at the forefront of research and clinical development	<i>C. Roquencourt</i> : Processing and analysis of PTR-TOF data for biomarker discovery in exhaled breath - covid-19 intubated ventilated patient
09:50	<i>Fabio Di Francesco</i> : Breath biomarkers of heart failure	<i>R. van Vorstenbosch</i> : The detection of primary sclerosing cholangitis using an optimized methodology for fecal VOC analysis using the microchamber thermal extractor
10:10	<i>Renate Kos</i> : Targeted exhaled breath analysis for detection of respiratory pathogens in cystic fibrosis patients	<i>Celia Mallafré-Muro</i> : Breath analysis for the detection of <i>Pseudomonas aeruginosa</i> infections in bronchiectasis patients using electronic nose and GC-MS
10:30	<i>Nicholas Smith</i> : Idealised lung clearance indices for paediatric patients	<i>Monika Śmielowska</i> : Screening for volatile biomarkers of colorectal cancer by analysing breath and fecal samples with TD-GC-MS
10:50	Coffee break & Exhibition	
	S9: Analytical methods for breath biomarker detection	S10: Breath analysis and cancer research
	Chairs: <i>Veronika Ruzsanyi & Bogusław Buszewski</i>	Chairs: <i>George Hanna & Daria Slefarska-Wolak</i>
11:20	<i>Bogusław Buszewski</i> : Comparative study of breath and fecal samples	<i>Jolanda Palmisani</i> : Breath analysis for early detection of pulmonary pathologies as malignant pleural mesothelioma
11:50	<i>Wolfgang Vautz</i> : From security to health: breath-based information from GC-IMS	<i>Sarah Haywood-Small</i> : Volatile organic compound analysis of a chorioallantoic membrane model within malignant pleural mesothelioma
12:10	<i>Thomas Wortelman</i> : GC-IMS and various sampling techniques to test for individual volatiles at sup-ppb level	<i>Kiran Sankar Maiti</i> : Diagnosis of prostate cancer via infrared spectroscopy of breath
12:20	<i>Antonello Larecchiuta</i> : New sampling and vacuum extraction techniques for quantitative analysis of VOCs/SVOCs in breath (ENTECH)	<i>E. Schillebeeckx</i> : Breath analysis allows to predict treatment response in malignant pleural mesothelioma patients
12:40		<i>Theo Issitt</i> : Metabolism of VOC's, including methyl halides in cells under varying conditions, mice and humans to diagnose breast cancer
13:00	Lunch break	

Tuesday (afternoon)		June 14, 2022
	Auditorium	Room 27
	S12: Five shades of breath analysis	S11: Volatile signatures of asthma in breath
	Chairs: <i>Wolfram Miekisch & Jonathan Beauchamp</i>	Chairs: <i>Alexander Moeller & Renate Kos</i>
14:30	<i>Inger Lise Gade</i> : Bottom-up proteomic analysis of the exhaled breath condensate from twenty-six individual healthy persons	<i>Mahmoud Abdel-Aziz</i> : Exhaled VOCs are linked to house dust mite-atopy in asthmatics and wheezers: U-BIOPRED cohorts
14:50	<i>Pritam Sukul</i> : Effects of Covid-19 protective facemasks and wearing durations onto respiratory haemodynamic physiology and exhaled breath constituents	<i>Federico Vivaldi</i> : A low-cost setup for dispensing internal standards into needle trap microextraction devices for reliable breath and environmental analyses
15:10	<i>Sarah Dowling</i> : A clinical investigation into the ability of lung impaired subjects to provide screening and evidential breath specimens	<i>Yoni. E. van Dijk</i> : Analysis of metabolites in exhaled breath for the phenotyping of eosinophilic asthma in children
15:30	<i>Simonetta Capone</i> : Blood, urine and semen volatilome analysis exploring health risk in contaminated areas in Italy	<i>Alexander Moeller</i> : Asthma diagnosis in children by real-time breath analysis
15:50	<i>Joris Meurs</i> : Non-invasive monitoring of participants during a multi-day walking event - two case studies of the nijmegen four days marches	<i>Andrei Malinovschi</i> : Exhaled and nasal nitric oxid in clinical guidelines
Coffee break & Exhibition		
16:30	Focus groups	
17:30	Anton Amann award	
17:45	Awardee plenary session	
19:30	Transfer to Villa Scorzi	
21:00	Social dinner at Villa Scorzi	
	Back from Villa Scorzi	

09:00	Registration opens	
09:30	Plenary Lecture IV <i>Paul Thomas: Time's arrow, and the moving target of your phenome. A brief meditation on root causes of variability and irreproducible observations in breath research</i> Chair: Fabio Di Francesco	
	Auditorium	Room 27
	S13: Young scientist session I	S14: Young scientist session II
	Chairs: <i>Dorota Ruskiewicz & Tommaso Lomonaco</i>	Chairs: <i>Franziska Lochmann & Veronika Ruzsanyi</i>
10:10	<i>Hannah Schanzmann: Ion mobility and mass spectrometry in combination with gas chromatography for the detection of nosocomial infections: first results</i>	<i>Daria Slefarska-Wolak: Volatilomic footprints of AGS-I, SNU-I, CLS-I45 and HGC-27 gastric cancer cell lines</i>
10:30	<i>Lorenzo Petralia: A novel methodology towards the functional location of inflammation in eosinophilic asthma</i>	<i>Eline Janssens: Breath biomarkers for pleural mesothelioma - an external validation study</i>
10:50	Coffee break & Exhibition	
11:20	<i>Ning Sun: Profiling VOC's from human plasma using GC×GC-ToFMS</i>	<i>Kathleen Zwijzen: Analysis of VOCs in exhaled breath as screening method for malignant pleural mesothelioma in an asbestos-exposed population</i>
11:50	<i>Iris van der Sar: Unsupervised clustering of electronic nose data in patients with sarcoidosis</i>	<i>Ronja Weber: Asthma in one breath - metabolic signatures for allergic asthma in children by online breath analysis</i>
	S13: Young scientist session I	S15: Skin volatilome and other stories
	Chairs: <i>Dorota Ruskiewicz & Tommaso Lomonaco</i>	Chairs: <i>Aoife Morrin & Tobias Bruderer</i>
12:10	<i>Nynke Wijbenga: Detection of chronic lung allograft dysfunction in lung transplant recipients using an electronic nose</i>	<i>Aoife Morrin: Skin volatilomics - translation of wearable biodiagnostics for health monitoring</i>
12:20	<i>Carmen Bax: An experimental apparatus for e-nose breath analysis in respiratory failure patients</i>	<i>Tobias Bruderer: Effect of fear on sweat volatiles composition with DHS-GC×GC-TOF</i>
12:40	<i>Franziska Lochmann: Non-invasive CYP2C9 breath tests for predicting individual drug responses</i>	<i>Amy Worrall: Predicting Pathology - examining the health of inner ear cells via VOC sampling to facilitate early intervention in age related hearing loss</i>
13:00	Lunch break	
14:00	Concluding remarks & Breath Summit impressions Chair: Fabio Di Francesco	
14:10	IABR president election	
16:00	Best poster awards, chairs: Jonathan Beauchamp & Marieann Högman	

General Information

Entitlements for participants

Conference bag, admission to all scientific sessions, coffee and lunch breaks, welcome cocktail, social dinner, and online access to the programme booklet and book of abstracts.

Wifi

Free access to the WIFI in the CNR research area. Please request your username & password at the registration desk. Lost and found is also at the registration desk.

Registration desk

In case of emergency or need of medical assistance, please contact the staff at the registration desk or any of the staff at the venue.

Important contact info

Registration desk: Tel.: +39 351 1632875

Email: organizingcommittee@breathsummit2022.it

Taxi: Order taxi or personal transfer, www.cotapi.it

Phone call: +39 050 541600

SMS/Whatsapp: +39 331 8342333, App: "it taxi"

Bus: AT-Bus Te. +39 800 14 24 24, www.at-bus.it

Bus routes, App: "moovit"

Bus tickets: Tabacchi, App: "tabnet"

Police: 112

Ambulance: 118

IABR presidential election

IABR members are kindly invited to vote for the election of the president on Wednesday 15 June, 14:30 – 15:10. Please use the voting ballots included in the conference bag.

Conference venue

CNR Auditorium

CNR Research Area

Via G.Moruzzi, 1

56127 Pisa PI, Italy

Social Events

Welcome Cocktail

Date Sunday, June 12 (19:30 - 22:00)
Time Evening
Place DOMUS COMELIANA, Pisa
Website domuscomeliana.com

Meet old and new colleagues for an informal welcome reception, held at the DOMUS COMELIANA location close to the famous tower of Pisa in square of Miracoli. The reception is included in the registration fee.



Social Dinner

Date Tuesday, June 14
Time Evening (21:00 - 00:30)
Place VILLA SCORZI, Firenze
Website www.villascorzi.com/en

Social Dinner will take place in the fourteenth century VILLA SCORZI location, located in the shadow of the famous Certosa of Calci and surrounded by the enchanting setting of the mountains and Pisa countryside.



Pisa Luminaria

Date Thursday, June 16
Time Evening
Place Ponte di Mezzo, Pisa

Festivities to celebrate San Ranieri in Pisa include the beautiful Luminara on the evening of June 16th, the eve of the patron saint's feast day. Over 70,000 candles will burn and reflect on the river. The city along the Lungarno simply glows, followed by fireworks at 11 pm.





Social trip to Florence

Date Thursday, June 16

Time 08:45 - 18:00

Place Florence

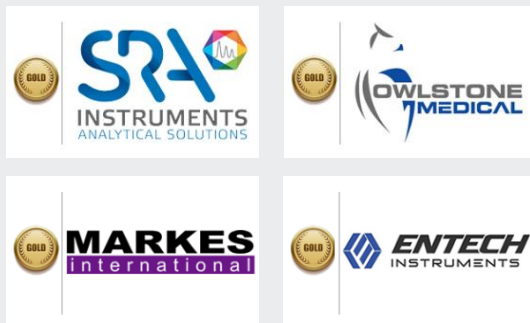
A walking tour of Florence is planned on June 16th that will allow you to discover the charm of one of the most beautiful cities in Italy and experience the heart and soul of the Italian Renaissance!

The breath-taking beauty of the Duomo and its massive dome will unveil before you reach Signoria Square - a real "open air museum" - and Ponte Vecchio - one of the oldest bridges in Europe. The tour will then delve into the charming Medieval district, to admire ancient tower-houses hidden among narrow streets and alleys, and lead you to the Oltrarno (on the other side of the river Arno), for a taste of one of the most famous Italian style gardens in Europe, the Boboli Gardens, built by the Medici family in the XVIth century with beautiful Renaissance fountains, statues, and artificial grottos!

After a free shopping time for souvenirs seekers, we will go back to Pisa to enjoy the charming Luminara of San Ranieri.

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