

# IABR Newsletter December 2025

## Notes from your Chair, Prof. Simona Cristescu

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### Your IABR Board

Current Chair: Prof. Simona M. Cristescu

Incoming Chair: Prof. George Hanna

Outgoing Chair: Dr. Jane E. Hill

Secretary: Dr. Y Lan Pham

Treasurer: Dr. Veronika Ruzsanyi

Exec. Director: Marco Freek, LL.M.

### Current IABR Board Activities

We meet quarterly. The last meeting was held online in July, 2025. At this meeting the primary topics discussed were (1) preparations for the upcoming Breath Summit in Austria, (2) website updates, (3) Voting IABR awards, (4) IABR membership system.

### Elections and awards

**Chair-Elect nominations** were open until August 31. The voting was done electronically by the IABR members present during the Breath Summit. Dr. Jens Herbing, dr. Dorota Ruskiewicz and Prof. Makoto Sawano were members of the Election Committee. **Prof. George Hanna** was elected as the Chair-Elect for the IABR. His term started October 1<sup>st</sup> for two years. At the same time, **Prof. Simona Cristescu** began her position as Chair and **Dr. Jane Hill** as Past-Chair for the coming two years.

**Anton Amman Award** nominations were received until June 13. This year, the award was for life-time achievement and, for the first time in the history of IABR, it was granted to two well-known scientists in the breath research community: **Prof. Cristina Davis** (University of California, USA) and **Dr. Joachim Pleil** (Gillings School of Public Health, University of North Carolina, USA). These awards, decided by the IABR board, were presented by Bogusław Buszewski, Marco Freek and Jane Hill.



**IABR Rising Star award** is a new established award by the IABR to recognise outstanding early-career researchers who have made a significant contribution to the field of breath research. Nominations were made until August 8<sup>th</sup>, 2025. **Dr. Mark Woollam** (Indiana University, USA) has been named the first recipient of the IABR Rising Star Award.

## **IABR Breath Summit 2025, Innsbruck, Austria, September 14-19, 2025**

By **Chris Mayhew** (Director of the Institute for Breath Research and Chair of 2025 Breath Summit)



**2025** marks the 20<sup>th</sup> anniversary of the founding of the International Association of Breath Research (IABR), which took place at Schönbrunn Palace, Vienna, Austria on the 30<sup>th</sup> May 2005. It was therefore appropriate that the 2025 Breath Summit was hosted in Innsbruck, Austria, the home town of the two key figures who established not only the IABR, but also the Institute for Breath Research (Institut für Atemgasanalytik), namely Prof. Anton Amann - the first Chair of the IABR and the first director of the Institute for Breath Research - and Marco Freek, who has been the Executive Director of the IABR since its foundation and who has been inspirational in leading and maintaining the influence of the IABR. In recognition of the IABR's 20<sup>th</sup> year, the 2025 Breath Summit became one of the longest and largest in its history, with over 180 delegates from around the world attending over a six-day period.



The 2025 Breath Summit opened on the afternoon of Sunday 14<sup>th</sup> September with welcome addresses by Jane Hill (IABR Chair) and Marco Freek (Executive Director). This was followed by two presentations of the Anton Amann Award given to Prof. Cristina Davis (University of California, USA) and dr. Joachim Pleil (Gillings School of Public Health, University of North Carolina, USA). Each award proceeded a commemorative talk, with Cristina's talk dealing with multi-dimensional chemical sensor instrumentation to detect breath and skin volatile organic compounds, whilst Joachim's presentation dealt with human breathing in artificial atmospheres. The opening addresses and talks were interspersed with Mozart's *Eine Kleine Nachtmusik* provided by the Innsbrucker Salonquintet.

The main part of the conference was officially opened on Monday 15<sup>th</sup> September by Prof. Gregor Weihs, Professor of Photonics and Vice-Rector for Research at the University of Innsbruck. This was followed by the Summit's Keynote Talk given by Andreas Güntner (ETH Zurich, Switzerland) on molecule-selective breath sensors. The duration of the summit provided an opportunity to cover a broad range of breath research areas whilst providing time for a number of interactive sessions, including an Early-Stage Researcher event organised by two PhD students, Anesu Chawaguta (centre in picture below) and Rebecca Hofer, that involved a question-and-answer session to an expert panel, which included (from left to right): Agi Smolinska, George Hanna (who was elected to be the Chair Elect of the IABR during the Summit), Wolfram Miekisch, Veronika Ruzsanyi, Joachim Pleil and Paul Thomas. This question-and-answer event was hosted by Stamatios Giannoukos, ETH Zurich.



The Summit closed on the 19<sup>th</sup> September with various awards. The first of these awards was Ionicon Analytik GmbH's best student poster awards, which went to Simone Hersberger (ETH Zurich, Switzerland), Thibault Massenet (University of Liege, Belgium.), Anna Schöllnast (University of Innsbruck, Austria), Valentina Stock (University of Innsbruck, Austria), Caimhe Walsh (Imperial College London, United Kingdom) and Adan Zoabi (Israel Institute of Technology, Israel).



### **A heartfelt thank-you to our conference organizers!**

We extend our sincere gratitude to the local organizing committee led by Chris Mayhew for their outstanding efforts in making this year's conference a great success. From seamless logistics to engaging sessions, receptions and conference dinner, their dedication and professionalism ensured an exceptional experience for all participants.

Appreciate all the effort that went into organizing such a smooth and inspiring conference; big thanks to Chris Mayhew, his PhD students and post-doctoral fellows of the Institute for Breath Research and in particular dr. Simone Jürschik. Simone worked tirelessly for more than 18 months to ensure the smooth running of the event. We are greatly indebted to Chris and Simone for their considerable diligence and commitment.

“Independent of the organisation, the success of any conference is ultimately down to those attending the event. I therefore wish to thank all of the delegates and sponsors for making the 2025 Breath Summit an inspiring and successful week.” (Prof. Chris Mayhew, conference chair)

**Selected Papers from the IABR Breath Summit 2025:** Although the official 2025 Breath Summit may be over and hence becoming a distant memory, I encourage attendees to submit papers for a special 2025 Breath Summit collection in the Journal of Breath Research in order to further make the 20<sup>th</sup> anniversary of the IABR a truly memorable event. For details of this special edition and submission information please go to the following link: <https://iopscience.iop.org/collections/jbr-250902-930>.

And now we turn our attention to the **2026 Breath Summit** that will take place in 1- 4 November in Tokyo, Japan and which is being organised by **Makoto Sawano and Woosuck Shin**.

I hope to see you there!

**Spotlight on: 2025 Anton Amman Award winners****Prof. Cristina Davis**

Cristina Davis is a Professor of Mechanical and Aerospace Engineering at the University of California, Davis (Davis, CA), and the campus Associate Vice Chancellor for Research. Her research group focuses on creating miniature analytical sensor systems for mobile chemical detection platforms tailored for various high impact application areas including breath monitoring and diagnostics. Prof. Davis earned her BS degree at Duke University with a double major in mathematics and biology. She completed her PhD in biomedical engineering at the Univ. of Virginia focusing on novel biosensor research. She then worked on silicon-chip based biosensors during a postdoctoral fellowship at The Johns Hopkins University. Along with a group of co-founders, she worked in industry in Switzerland to establish a start-up company developing MEMS-based screening platforms for the pharmaceutical industry, and their company was acquired by Molecular Devices Corporation. She ultimately went on to become a Principal Member of the Technical Staff and the founding Group Leader of Bioengineering at The Charles Stark Draper Laboratory (Cambridge, MA). Having spent almost a half-decade in industry, she returned to academia in November 2005. She served as a Member of the Scientific Advisory Board for the US Air Force (2014-2018) and is a Fellow of the American Institute for Medical and Biological Engineering, the American Association for the Advancement of Science and National Academy of Inventors. She was Chair of the IABR from 2021-2023 and is currently the Editor in Chief of the JBR. Website: <http://mae.ucdavis.edu/faculty/davisc>

**Dr. Joachim Pleil**

Joachim Pleil holds B.S. degrees in Mathematics and Physics, an M.S. in Physics, and a Ph.D. in Environmental Science and Engineering. As a Research Scientist at the U.S. Environmental Protection Agency (EPA), he has played a pivotal role in developing laboratory methods for measuring and identifying both endogenous and chemical biomarkers. His work also includes creating mathematical, statistical, and systems-biology models to interpret human exposure to environmental stressors.



Beyond his scientific achievements, Dr. Pleil has been a tireless advocate for the field of breath research. At the EPA, he has collaborated with numerous U.S. government agencies—including the DoD, NASA, NATO, NIOSH, CDC, AFOSR, and DOE—on human biomarker studies. He currently advises NASA on pilot-breathing assessment and the Mars-mission spacesuit program.

Dr. Pleil has delivered more than 50 invited lectures at breath-research conferences and has served as an adjunct professor at the University of North Carolina Gillings School of Global Public Health, where he has been a dedicated and effective instructor in Environmental Exposure Assessment.

Dr. Pleil is currently retired from full-time federal work at EPA, but remains active as an adjunct professor, researcher, and consultant in breath research and environmental-exposure science. He is a founding member of both the IABR and JBR and served as Editor-in-Chief of JBR for more than ten years, beginning in 2015.

## Spotlight on: IABR Rising Star award winner dr. Mark Woollam

Contributed by M. Woollam

### Who am I?

I serve as Senior Research Scientist at the Integrated Nanosystems Development Institute (INDI) on the campus of Indiana University Indianapolis. At my core, I am guided by three defining roles: a devoted fiancé, a passionate breath researcher and a creative individual. I am deeply committed to advancing the science of breath analysis through innovative research that can transform diagnostics and improve lives. Outside the laboratory, I channel my creativity through a passion for artistic films that challenge societal norms and provoke thought (Stanley Kubrick is my favorite director).



### How did I get into breathomics research?

My journey into breath research began during my 1st year as an undergraduate at Indiana University of Pennsylvania (IUP) in 2013. I first entered the field of breath research when I began my chemistry PhD in the summer of 2017 at Indiana University-Purdue University Indianapolis with Dr. Mangilal Agarwal. He delivered a talk on the use of scent-based molecular components, specifically (VOCs for diagnosing medical conditions. The science was not only fascinating, but each project offered clear, real-world applications with the potential to create broad impact and advance public health. Soon my curiosity quickly grew into commitment. In 2022, I defended my dissertation, graduated, and was awarded the Indiana University Distinguished Thesis Award within the STEM category.

### What do I like about research?

What excites me most is the creativity at its core. I love exploring scientific phenomena, asking bold questions, and designing experiments that not only uncover new insights but also spark even more questions. Research is a cycle of curiosity and discovery, and that's what makes it endlessly rewarding. Scientific inquiry is deeply personal, but what I find even more rewarding is mentoring across all academic levels. Achieving something yourself is gratifying, yet empowering others to succeed in research and watching them go on to accomplish things far beyond your own work is on an entirely different level. Moreover, the connection between research and real-world benefit is what makes this work profoundly fulfilling.

### What research excites you now?

I can say for certain that the future of breath research holds extraordinary promise, with opportunities that are both exciting and transformative: e.g. use of exogenous VOC probes for diagnosing medical conditions and integrating VOC analysis with larger biomolecules found in exhaled breath condensate. Expanding the range of molecules analyzed within a single patient cohort is an exciting step forward, but I am equally enthusiastic about building multi-center collaborations that can deliver the robust validation studies this field urgently needs. Finally, I am passionate about developing, optimizing, and translating portable systems for point-of-care VOC biomarker detection.

## IABR Terms and Candidate Roles

Position	Term	Scheme September 2025		Held Until
Past Chair	2Y	Jane Hill	jane.hill@ubc.ca	9/30/27
Chair	2Y	Simona Cristescu	simona.cristescu@ru.nl	9/30/27
Chair elect	2Y	George Hanna	g.hanna@imperial.ac.uk	9/30/27
Auditor	2Y	Sean Harshman	sean.harshman.1@us.af.mil	6/15/26
Alternate Auditor	2Y	Renelle Myers	renellemyers@icloud.com	6/15/26
Treasurer	2Y	Veronika Ruzsanyi	Veronika.Ruzsanyi@uibk.ac.at	6/15/26
Secretary	2Y	Y Lan Pham	y.lan.pham@ivv.fraunhofer.de	6/15/26
Election Committee	2Y	Jens Herbig	election@iabrat	6/15/26
	2Y	Makoto Sawano		
	2Y	Dorota Ruskiewicz		

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*On behalf of the IABR board, we wish you and your loved ones a very Merry Christmas and a joyful, healthy, and prosperous New Year!*

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