

NEWS

11 May 2026

Briefing on improving indoor air quality for workplace health and safety and enhanced productivity

The Honourable Amanda Rishworth, Federal Minister for Employment and Workplace Relations, and Ms Madonna Jarrett, Member for Brisbane, visited the International Laboratory for Air Quality and Health (ILAQH) and Thrive at Queensland University of Technology (QUT) on 14 April to learn about safe indoor air for Australian workers.

During the visit, we presented ILAQH's achievements, our international role as a World Health Organization (WHO) Collaborating Centre for over two decades, our long-standing collaboration with local and federal governments, and our scientific achievements and contributions to the interdisciplinary field of air quality and its impact on health and the environment.

Our Centre Director, Distinguished Professor Lidia Morawska, briefed the Ministers on one of THRIVE's most significant projects from a policy perspective: the P-Block Project – *"The first building in the world to meet the proposed IAQ standards"*. Our team then guided visitors through our laboratories, showcasing our research into particles generated by human respiratory activities, which has established the scientific foundation for understanding airborne infection transmission. We also highlighted our current research on low-cost sensors for indoor air quality (IAQ) compliance monitoring.

We hope that the insights from this visit will contribute to the government's efforts to improve air quality for Australian workers in indoor public spaces.



Pictured L-R: D/Prof Lidia Morawska, Ms Madonna Jarrett, Hon Amanda Rishworth, Prof Margaret Sheil



Building the blueprint for P-Block's clean indoor air

The P-Block Project is well underway, with the team working towards delivering the first building to meet the proposed indoor air quality (IAQ) standards. Retrofitting an active occupied building presents challenges that extend beyond hardware installation alone; it requires the integration of physical monitoring devices, digital mapping, and artificial intelligence with the building management system to optimise and automate ventilation and reduce energy use in unoccupied spaces.

The project has now transitioned from the planning phase into technical implementation. Key milestones achieved over the past quarter are described below.

Selection of monitors

Monitors from four manufacturers were shortlisted following a comprehensive market review and detailed analysis of the specifications of all commercially available options. These shortlisted monitors were delivered in February and have since undergone extensive laboratory testing to verify the manufacturers' performance claims. This testing involves network connectivity, data transmission and storage as well as performance evaluation under a range of conditions. Monitors were exposed to various concentrations of pollutants, including CO₂, PM_{2.5} and CO in controlled chamber tests. Emissions were generated in the lab and collected from real-world sources (such as vehicle emissions).

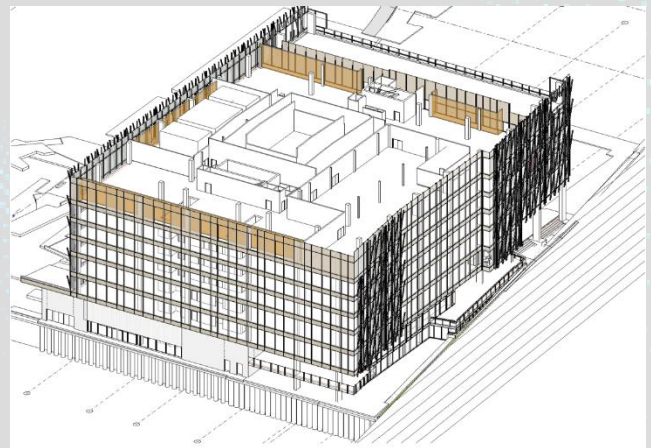


Monitor performance was evaluated to determine which monitors meet the performance evaluation criteria developed from a combination of international guidelines (e.g., USEPA and WELL). A database has been constructed to ingest data from the network of monitors on the project, which will be used for real-time visualisation and alerting. We have also received quotations from each

manufacturer. Once testing is finished, the best monitors for the P-Block Project will be selected, with an expected announcement in May 2026.

3D digital twin

A full 3D digital scan of level 8 and the car park of P-Block has been completed, and work is underway on a full 3D scan of the rest of the building. This 'digital twin' allows us to optimise monitor placement and develop communication and data-visualisation techniques for communicating real-time IAQ.



AI and building optimisation

A custom AI model using a multi-objective optimisation framework has been developed. The system is currently being trained to balance competing goals across the project to maintain IAQ whilst managing energy consumption and thermal comfort. We are currently establishing secure communication protocols to ensure this system is resilient and robust.

Building services

The HVAC system on level 8 has been recommissioned. Plans are underway to recommission the remaining HVAC systems in the building in coming months to ensure that the infrastructure operates in accordance with its original design specification. This essential recommissioning process will enable a robust assessment of the HVAC systems' actual performance, identify opportunities for capacity enhancement, and inform any required retrofitting to ensure the building complies with the proposed IAQ standard.

The project website is now live and will be updated fortnightly: pblockproject.com

WHO flagship conference: International Conference on Climate and Health Innovation and Cooperation

The WHO's flagship climate-health conference, the International Conference on Climate and Health Innovation and Cooperation, was conducted from 28 January to 1 February in Baoting Li and Miao Autonomous County in China. The conference was organised by the WHO and co-hosted by the People's Government of Baoting Li and Miao Autonomous County, Peking University Institute for Global Health, and Ningyuan Institute of Climate and Sustainable Development (Hainan), with academic support provided by the Peking University Institute of Environmental Medicine.

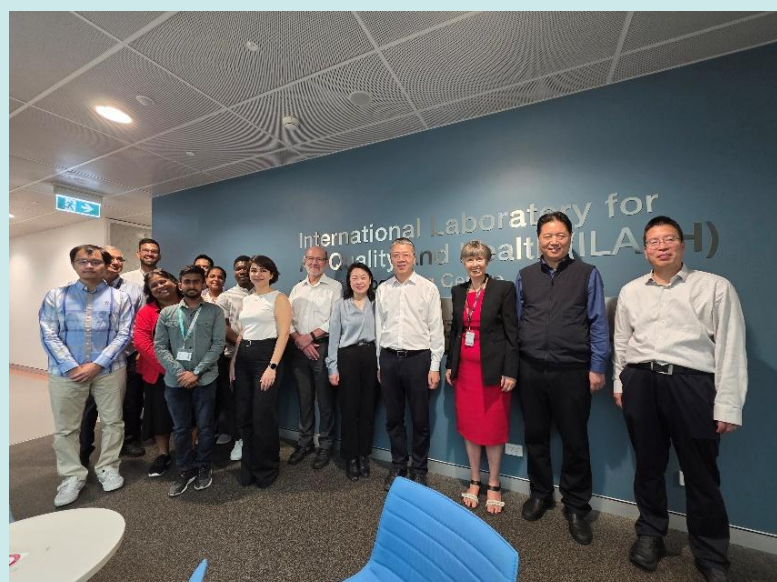
By situating the meeting in a climate-vulnerable subtropical county – an island ecosystem facing biodiversity pressures and emerging-economy constraints – the WHO signals clearly that effective climate-health governance must be validated in “micro-laboratories” capable of replication in analogous contexts worldwide.



D/Prof Lidia Morawska attended and presented at this meeting. Her presentation attracted the interest of a delegation from the China Academy of Building Research (CABR), whom she met during this conference ([more information](#)).

Visit of the China Academy of Building Research

A delegation from the China Academy of Building Research (CABR) met with the P-Block Project team at QUT to discuss opportunities for collaboration. Along with the productive discussions, the delegation visited the Thrive lab. Visiting delegates included: Professor Wang Qingqin, Chairman, Academic Committee; Professor Yin Bo, Vice-Dean; Professor Zhao Li, Director, Institute of Science and Technology Development; and Professor Li Xiaoping, Vice-Director, Department of Technology and Standard.





Thrive Forum: Impact of fire in a changing climate



Please join us for our next forum: Impact of fire in a changing climate.

 Thursday 2 July 2026

 9:00am – 4:00pm AEST (Brisbane)

 The Gibson Room, Z Block, Level 10, Room 1064, QUT, 2 George Street, Brisbane QLD 4000

 Online: Zoom link will be available

 [Register for the forum](#)

The agenda for the forum will be circulated soon.

IAQ in Australian classrooms is receiving increasing attention

Many learning environments experience inadequate ventilation and elevated levels of carbon dioxide (CO₂), particulate matter, and moisture-related risks such as mould conditions that affect both student outcomes and staff wellbeing. To address this, Somerset College on the Gold Coast is taking a proactive leadership role by implementing a comprehensive, real-time IAQ monitoring program across classrooms and staff spaces to establish a clear, evidence-based understanding of indoor conditions.

Our partners, the Blue IoT Team, has provided the school with advanced monitoring systems that provide continuous visibility of key air quality parameters, working alongside QED Environmental Services, who interpret the data and guide practical interventions. Importantly, the program goes beyond monitoring, incorporating targeted remediation strategies including operational improvements and demand-driven ventilation solutions such as wireless CO₂-based exhaust systems, ensuring that identified issues are addressed effectively and at scale.



The Thrive school project team completed a pilot study at Somerset College. They were able to conduct a test trial of our monitoring methods and gather valuable insights in a real classroom setting. This three-week pilot study helped shape the direction of the project and laid the foundation for our upcoming large-scale IAQ research in Queensland schools. Together, this initiative translates data into action, supporting healthier, safer, and higher-performing environments for both students and staff.



The project is overseen by D/Prof Lidia Morawska, and is led by Dr Enoch Adotey and three of our PhD students, Dilani Madhubhashini, Punsara Dharaka and Mohammad Sarmadi. Special thanks to Mr David Thornton, Principal Somerset College, as well as our collaborators and partners, Peter Evans (b2bResourceSmartSchools) and Bob Sharon (Blue IoT Team), for their assistance with gaining access to the school for the installation of the monitoring instruments to conduct the study.

Pictured L-R: Punsara Don, Peter Evans, Dilani Madhubhashini, David Thornton, Enoch Adotey, and Mohammad Sarmadi.

Act now to clean up air

A new article from D/Prof Lidia Morawska in *Nature* clearly outlines the need to act now for clean air. Clean air is not a privilege but a right, and governments must fulfill their duty to provide access to clean air (both outdoors and indoors). Prof Morawska clearly lays out the need for clean indoor air: 99% of the world's population breathes air that exceeds WHO pollution limits. PM_{2.5} is a leading contributor to global disease burden, linked to cardiovascular disease, lung cancer, diabetes, infections, and neurological conditions. We spend about 90% of our time indoors — yet indoor air remains largely unregulated. Risks today include wildfires worsened by climate change, urban combustion emissions, and airborne infectious disease transmission.

Governments must legislate IAQ performance standards and improve building design standards for both new and existing buildings. [Read the full article](#)



NSW Parliament's Clean Indoor Air Inquiry



Members of the Thrive team gave evidence at the NSW Parliamentary Clean Indoor Air Inquiry held in Sydney. D/Prof Lidia Morawska and A/Prof Wendy Miller were at the hearing on 19 February alongside many colleagues and partners. We also participated in a joint submission with the Centre for Safe Air (NHMRC Centre of Research Excellence), and the Healthy Environments and Lives (HEAL) National Research Network. Further evidence was presented by Prof Morawska and The Australian Academy of Science in a third joint submission on 1 April.

Pictured L-R: A/Prof Suman Majumdar, Dr Amanda Cohn, D/Prof Lidia Morawska, Plum Stone, A/Prof Wendy Miller.

[Read our submission](#) | [Read the CSA, HEAL and THRIVE joint submission](#) | [Read the AAS joint submission](#)

IAQ has attracted global attention due to increasing awareness of the negative impacts of airborne hazards

Efforts are underway by our colleagues at Burnet Institute to improve IAQ and reduce exposure to airborne hazards including pathogens, pollution, allergens and viruses.

Burnet's Chief Health Officer, Associate Professor Suman Majumdar, interviewed our D/Prof Lidia Morawska on her recent trip to Melbourne to give a Lecture at Burnet Institute. In this interview clip, she explains how IAQ can sometimes be worse than outdoor air quality.

Find out why clean indoor air is important, what the hazards are, and what action needs to be taken to improve indoor air quality for everyone. [Watch the full interview](#)





Team member spotlight

Mr Ashkan Jahandari, Thrive PhD student, Queensland University of Technology

My name is Ashkan Jahandari, and I am a PhD student at THRIVE, QUT. I was born in Shiraz, an ancient city in the south of Iran. Shiraz is often known as the “city of poetry, flowers and wine”, reflecting its rich culture, history and literary heritage. It is located close to important historical sites such as Persepolis which was the ceremonial capital of the Achaemenid Empire and is an important symbol of early Persian civilisation and culture. Shiraz is also the home of the legendary poets in Persian literature, Hafez and Saadi, whose works highlight love, unity and the beauty of life, much of which was inspired by the natural environment and the pleasant climate of Shiraz.

Many of our traditions, such as Nowruz (Persian New Year), which celebrates the arrival of spring, and Shab-e Yalda, when we celebrate the longest night of the year at the beginning of winter, symbolising that even the longest darkness will pass, are deeply connected to nature and seasonal change. This connection led to my early interest in environmental science.

I completed my bachelor’s and master’s degrees in environmental geology and geochemistry, where I worked on the urban geochemistry of Shiraz. After that, I participated in several research projects. My work focused on the pollution of urban and agricultural soils, sediments, groundwater, atmospheric dust, and urban dust, in terms of potentially toxic elements, microplastics and other contaminants. Later, I was ranked first in the national PhD entrance exam in environmental geochemistry, but I decided to continue my education abroad and focus on air pollution, which is one of the most important global environmental challenges.

My current research focuses on understanding ultrafine particles, including their sources, behaviour, and exposure in urban environments. I measure particle number concentrations and study how they change across different conditions. The goal is to improve monitoring methods and support better policies for this important but often overlooked part of air pollution.

At THRIVE, I am part of a multidisciplinary research environment, where experts from different fields work together to improve air quality. For me, being part of THRIVE is a unique opportunity. Beyond research, it feels like a place that helps build not only scientific knowledge, but also confidence and a sense of purpose.

As everyone deserves to breathe clean air, I would like to finish my story with a line from my all-time favourite Persian poet, Hafez Shirazi (c. 1315–1390 CE): “Join me in the pure atmosphere of gratitude for life.”



New publications



Salthammer, T. and Morawska, L. [The rapid progress of climate change requires effective concepts for protecting people indoors](#). *WIREs Climate Change*, 17(1): e70043, 2026.

Oswin, H.P., Tellier, R., Groth, R., Silvonen, V., Bull, R., MacIntyre, R., de Silva, C., Doolan, C., Mahmoud, M.A., Honeyman, Seppelt, I., Nicholls, M., Turville, S., Aggarwal, A., Kabir, K.M.A., Notaras, A. Milton, D. and Morawska, L. [Quantification of airborne respiratory microflora provides insights into airborne infection risk](#). *International Journal of Infectious Diseases*, 164: 108403, 2026.

Trounce, M., Anderson, D., Bates, L., Bhangar, S., Bolin, R., Chen, W., Chwalek, S., Frank, S., Hartke, J., Kumagai, K., Lagoudas, G., Malmstrom, E., McGrady, S., Metzger, C., Mikszewski, A., Nall, D., Owens, B., Salas, J., Taylor, S., Vernon, W. and Morawska, L. [Paradigm shifts in indoor air quality: insights from the 2025 Stanford forum on sustainable and healthy buildings](#). *Building and Environment*, 290: 114152, 2026.

Trounce, M., Anderson, D., Bahnfleth, W., Bates, L., Bhangar, S., Bolin, R., Chen, W., Chwalek, S., Frank, S., Greene, J., Hartke, J., Kumagai, K., Lagoudas, G., Malmstrom, E., McGrady, S., Metzger, C., Mikszewski, A., Nall, D., Owens, B., Salas, J., Taylor, S., Vernon, W. and Morawska, L. [AI as a catalyst for synergistic gains in indoor air quality and energy efficiency](#). *Building and Environment*, 289: 114069, 2026.

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