



International Laboratory for Air Quality and Health



WHO Collaborating Centre

2020 ANNUAL REPORT

INTERNATIONAL LABORATORY FOR AIR QUALITY and HEALTH

(ILAQH)

WORLD HEALTH ORGANISATION
COLLABORATING CENTRE FOR AIR QUALITY AND HEALTH

1. Introduction

The International Laboratory for Air Quality and Health (ILAQH) is part of the School of Earth and Atmospheric Sciences (EAS), Institute for Health and Biomedical Innovation (IHBI) and the Institute for Future Environments (IFE), at the Queensland University of Technology (QUT). ILAQH undertakes research, postgraduate training and consultancy in the complex, interdisciplinary field of air quality and its impact on human health, with a specific focus on ultrafine and nanoparticles. The three main aspects of ILAQH research activities are:

- Comprehensive characterisation of indoor and outdoor air, including emission sources.
- Integrated health and environmental risk assessments.
- Strategies for controlling and managing air pollutants.

To address the challenge related to the interdisciplinary nature of air pollution and its impact on human health, academics from a number of Faculties within QUT are involved with the programs undertaken by the ILAQH, including discipline areas such as: physics, chemistry, microbiology, mathematics, public health and engineering. The expertise of the ILAQH personnel is strengthened by close collaboration with a number of government and non-government organizations. Through joint research, lecturing and postgraduate student supervision, the ILAQH collaborates closely with a number of North American, European and Asian research and tertiary organizations.

The facility is equipped with state-of-the-art instrumentation for aerosol generation, mass and number size classification; monitoring of atmospheric gases; real time biological studies; vehicle emission testing, filter testing, lung deposition studies, and computer modelling. Access to electron microscopy and analytical chemistry facilities is available through the links existing within the Science and Engineering Faculty.

The ILAQH has built up a scientific program, which is recognised internationally through a high publication rate in reputable international journals, visits by scholars from around the world to the facility, and invitations to the ILAQH key researchers to address international conferences and participate in international initiatives. In Australia both the Queensland State and the Federal government and non-government organizations regularly seek the expertise of this facility.

The ILAQH is a Collaborating Centre of the World Health Organization on Research and Training in the field of Air Quality and Health, since 2004.

2. Collaboration with the World Health Organisation (WHO)

In July 2019, the ILAQH was re-designated for the third time as a World Health Organization (WHO) Collaborating Centre for Air Quality and Health.

Professor Lidia Morawska has made a sustained longstanding and ongoing contribution in her service as an advisor to the WHO, and has contributed to WHO policy on a range of initiatives including work on international WHO Guideline documents, serving as the main reference point for the international community, including WHO Guidelines for: Air Quality (in preparation – Prof Morawska is co-chairing this); Global Platform on Air Quality (in preparation); Healthy Housing 2018; Household Combustion, 2014; Indoor Air Quality: Selected Pollutants, 2010; Indoor Air Quality Guidelines on Dampness and Mould, 2009; Air Quality, 2005; Concentration and Exposure-Response Measurements of Fine/Ultrafine Particulate Matter, 2002; and Dust Prevention in Workplaces, 1996. Professor Morawska has also contributed work towards improvement of the quality of air in developed/developing countries through assisting governments in developing national air quality legislation in major epidemiological studies on air quality impacts, as well as participated in the WHO Emergency Outbreak Response Groups (e.g. 2003 SARS).

In 2020, Professor Morawska was invited by the WHO as a consultant on air pollution, to participate in the following activities:

- **Co-chaired** the '**4th Meeting of the Guideline Development Group for the update of the WHO Global Air Quality Guidelines**', held in Bonn, Germany from the 4-6 February 2020. For example, the opening session on day 1 of the meeting; sessions titled, 'Application of the refined protocol to derive the annual levels for PM_{2.5} and NO₂'; 'Reflections on air quality guidelines'; 'Options for presenting the 2005 interim targets'; 'Proposal for the good practice statements on black carbon/elemental carbon'; 'Discussion and agreement on the good practice statements on black carbon/elemental carbon'; 'Proposal for the good practice statements on desert dust'; 'Discussion and agreement on the good practice statements on desert dust'.
- Participated in the drafting and revision of **WHO's Best Practice Statements on BC and UFPs**, over the months of January - March 2020.
- Participated in **reviewing** the **WHO Collaborating Centres for Australia and New Zealand's** response to Global Health Alliance Australia 'reset' of **Australia's international development policy** in February 2020.
- Participated in the '**WHO Expert meeting on Microplastic**' via Video Link, 2-3 March 2020, and contributed to the report being prepared by the team titled, "**Nano-and microplastic particles in air and food: Potential implications for human health**".
- Participated in the '**23rd Task Force Meeting on the Health Aspects of Long-Range Transboundary Air Pollution**' held virtually due to COVID from the 12-13 May 2020. Presentation title: *Ambient Ultrafine Particles: evidence for policy makers*.
- Participated and **Co-chaired** the '**5th Meeting of the Guideline Development Group for the update of the WHO Global Air Quality Guidelines**', held virtually via WebEx from Bonn, Germany from the 25-30 June 2020.

- Contributed to a **paper on COVID 19 and air pollution** titled “**Ambient Air Pollution and SARS-CoV-2: an experts’ take on what we know and where we go?**”, led by Sophie Gummy of the WHO Geneva office during the months of June-July 2020. The paper will be submitted to a high impact factor journal in 2020.
- Professor Lidia Morawska was invited to participate in the ‘**WHO Environment and Engineering Control Expert Advisory Panel (ECAP) for COVID-19**’, August – 2020
- Professor Lidia Morawska was invited to participate in the ‘**71st Session of the WHO Regional Committee (RC) for the Western Pacific**’

3. ILAQH Researchers in 2020

Director

Professor Lidia Morawska, PhD (School of Chemistry, Physics & Mechanical Engineering)

Academic Staff

Professor Godwin Ayoko (School of Chemistry, Physics & Mechanical Engineering)

Professor Zoran Ristovski (School of Chemistry, Physics & Mechanical Engineering)

Dr Branka Miljevic (School of Chemistry, Physics & Mechanical Engineering)

Dr Graham Johnson (School of Chemistry, Physics & Mechanical Engineering)

Research Fellows / Associates

Dr Congrong He

Dr Joel Alroe

Dr Rohan Jayaratne

Research Fellowships

Dr. Tom Cole-Hunter (CAR Postdoctoral Fellowship)

Dr. Marc Mallet

Associated Academic Adjunct Staff

Adjunct Professor Giorgio Buonanno (University of Cassino, Italy)

Adjunct Professor Hai Guo (Hong Kong Polytechnic University, Hong Kong)

Adjunct Prof Heidi Salonen (Aalto University, Finland)

Adjunct Prof Paul Jagals (University of South Africa)

Adjunct Professor Tunga Salthammer (Fraunhofer WKI, Germany)

Postgraduate & Research Co-ordinator

Ms. Chantal Labbe

Doctoral Students

Alireza Taghipour (Supervisor: Richard Brown with Zoran Ristovski)

Alma de Jesus (Supervisor: Lidia Morawska)

Basant Pradhan (Supervisor: Lidia Morawska with Rohan Jayaratne)

Changda Wu (Joint QUT-JNU student, Supervisor: Zoran Ristovski with Branka Miljevic)

Eva Johanna Horchler (Joint QUT-JNU student, Supervisor: Zoran Ristovski with Branka Miljevic)

Haydn Trounce (Supervisor: Zoran Ristovski with Branka Miljevic)

Khanh Long Tran (Supervisor: Lidia Morawska with Rohan Jayaratne)

Lingli Guo (Supervisor: Lidia Morawska)

Meng Xiu (Supervisor: Lidia Morawska with Rohan Jayaratne)

Mojibul Sajjad (Supervisor: Richard Brown with Zoran Ristovski)

Nairui Liu (Supervisor: Lidia Morawska)

Priyanka Arora (Supervisor: Zoran Ristovski)

Robert Groth (Supervisor: Graham Johnson with Zoran Ristovski)

Sadegh Niazi (Supervisor: Graham Johnson)

Xiaoting Liu (Supervisor: Lidia Morawska with Rohan Jayaratne)

Zachary Brown (Supervisor: Branka Miljevic with Zoran Ristovski)

Doctoral Students (enrolled in other QUT Schools and other Universities)

G M Hasan Shahariar (Supervisor: Richard Brown with Zoran Ristovski)

Marc van Beest (Supervisor: Nunzio Motta with Lidia Morawska)

Rebecca Stockwell (QIMR, Supervisor Scott Bell with Lidia Morawska)

Shayan Mokhtarpour Vanaki (Supervisor: Yuan Tong Gu with Zoran Ristovski)

Zhenya Fan (Supervisor: Yuan Tong Gu with Zoran Ristovski)

Masters Students

Bryce Christensen (Supervisor: Lidia Morawska with Rohan Jayaratne)

Raziya Sultana Chowdhury (Supervisor: Godwin Ayoko with Zoran Ristovski and Branka Miljevic)

Tara Kuhn (Supervisor: Lidia Morawska with Rohan Jayaratne)

Graduate Certificate in Research

None.

Honours Students

Shara Lohrasb (Supervisor: Zoran Ristovski)

Postgraduate Completions, PhD

Chieneriwo Godday Osuagwu (Supervisor: Branka Miljevic with Zoran Ristovski)

Joel Alroe (Supervisor: Zoran Ristovski with Branka Miljevic and Graham Johnson)

Mawutorli Nyarku (Supervisor: Lidia Morawska)

Mohammad Jafari (Supervisor: Richard Brown with Zoran Ristovski)

Puneet Verma (Supervisor: Zoran Ristovski with Richard Brown)

Reece Brown (Supervisor: Zoran Ristovski)

Yi Guo (Supervisor: Zoran Ristovski with Branka Miljevic)

Postgraduate Completions, Masters

None.

Research Support Officer

Ms. Chantal Labbe

4. Major Developments

- Professor **Lidia Morawska** was **elected by the Fellows of the Academy to join the Australian Academy of Science Fellowship** in May 2020! She now joins the ranks of over 540 of Australia's most distinguished scientists, eminent by reason of their scientific attainments and research in natural science and their contributions to science.
- During the **COVID-19 pandemic**, Distinguished Professor Morawska assembled and led a large multidisciplinary group of over 239 scientists, ***The Airborne Transmission and Mitigation Group***, (inc. disciplines of aerosol physics, virology, public health, clinical medicine, building engineering and management), together *developed a framework for interventions needed to reduce health risks due to the airborne virus-laden droplets, and the relationship between air quality and infection spread*. They are guiding public health authorities worldwide to recognise the significance of airborne transmission of SARS-CoV-2 virus-laden particles and the immense risk it poses to human health. The WHO and numerous national authorities (e.g., the US Centres for Disease Control) subsequently updated their advice regarding airborne transmission, preventing millions of new infections and saving countless lives. D/Prof Morawska and her team's work is considered one of the four key elements in fighting the COVID-19 pandemic and is of immeasurable global significance ([Allen, 2020](#); [Lewis, 2020](#)). In 2020, she became a Member of the Task Force on Workplace, School, and Travel Safety, The Lancet COVID Commission (<https://covid19commission.org/safe-work-travel>), looking into building-related risk factors which are a critical, but missing, component of SARS-CoV-2 outbreak investigations ([March 2021](#)).

5. Awards and Achievements

- Professor **Lidia Morawska** was named in the list of **Top 40 Australian Researchers in The Australian Research Magazine** – please see page 9, and scroll to the Life Sciences & Earth Sciences section (<https://specialreports.theaustralian.com.au/1540291/9/>)!
- Professor **Lidia Morawska** was ranked **16428** in the **Stanford University** ranking of **100,000 Top Scientists!**
- Many congratulations to **Professor Lidia Morawska**, who was the recipient of the **Vice-Chancellor's Award for Excellence, QUT Recognition Program 2020!**



6. Peer Reviewed Publications

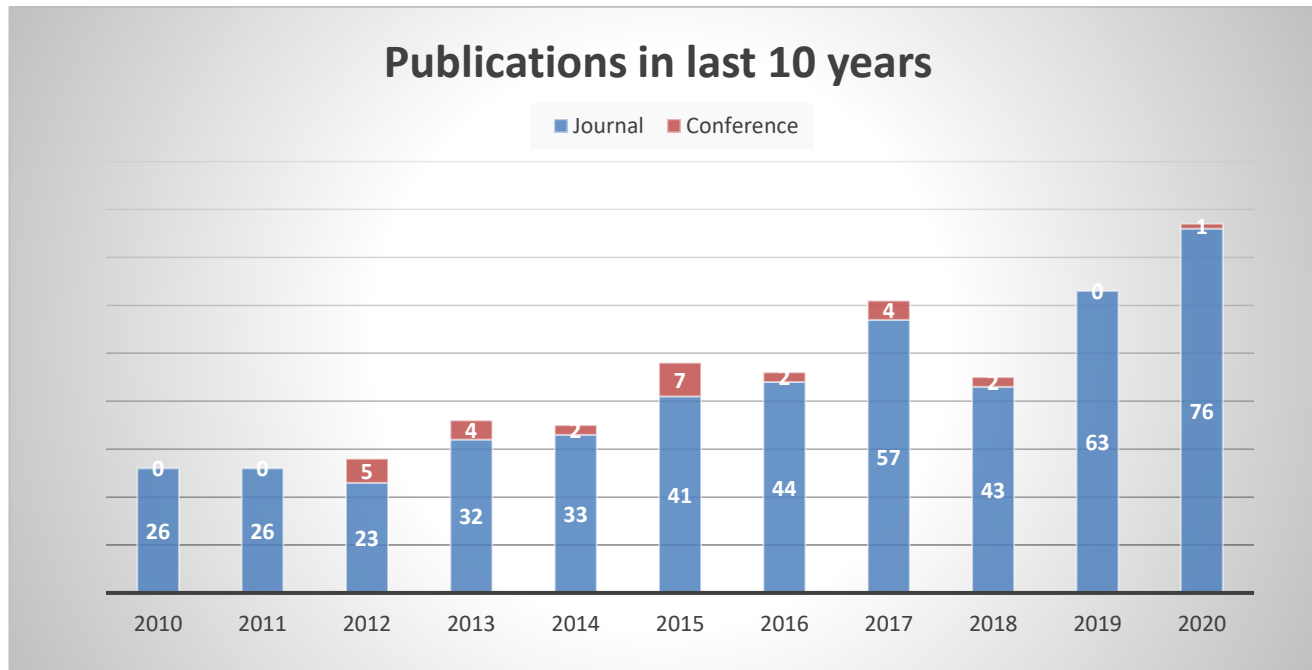


Figure 1. ILAQH Refereed Publications per Year (2010-2020)

7. Competitive Grants (Granted)

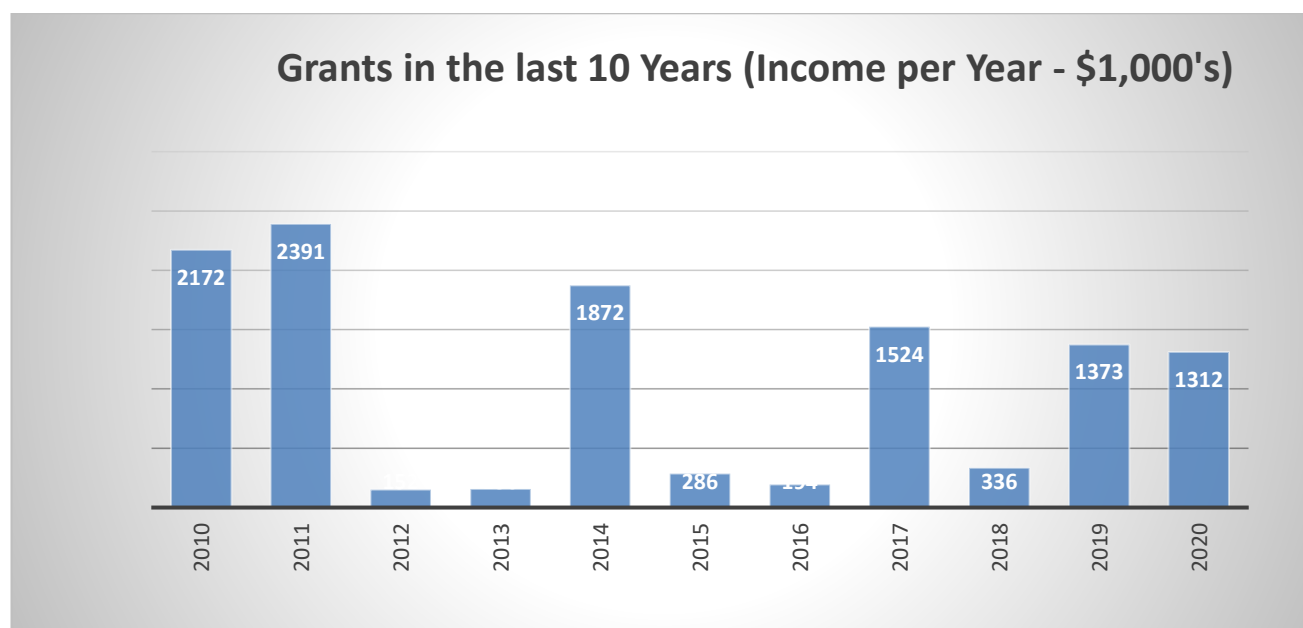


Figure 2. ILAQH Grant Income Distribution per Year (2010-2020)

Australian Competitive Grants (Awarded)

Administered by QUT (QUT Lead-CI)

Project Scheme: ARC Discovery Projects

Awarded: \$351,000

Chief Investigators: Graham Johnson, Branka Miljevic, Kirsten Spann, Kirsty Short, Zoran Ristovski

Project Title: *Aerosol glassy states promote global warming, airborne toxins and pathogens* (DP210103284)

Project Scheme: Advance Queensland, Queensland Citizen Science Grant 2020 (Round 2)

Awarded: \$29,900

Chief Investigators: Lidia Morawska, Paul Jagals, Rohan Jayaratne, Tom Cole-Hunter, Paul Wells

Project Title: *"The Air is Fair, Here and There": Queensland communities assessing and comparing air quality"*

Project Scheme: Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2020-21

Awarded: \$45,000

Chief Investigators: Zoran Ristovski

Project Title: *Photocatalytic Destruction of Diesel Particulate Matter - Stage 2: Prototype Development and Trials with Real Diesel Exhaust*

Project Scheme: Advance Queensland Engaging Science Grants 2020

Awarded: \$9,900

Chief Investigators: Tom Cole-Hunter, Gunter Paul, Rohan Jayaratne, Danielle Borg, Shamshad Karatela, Nightingale Sam, Timothy Barclay, Vicki Clifton, Lidia Morawska

Project Title: *"How's the air up there?": Queensland Communities Discussing Air Quality*

Project Scheme: Great Barrier Reef Foundation 2020

Awarded: \$175,000 (QUT Receives \$14,000)

Chief Investigators: Zoran Ristovski, Luke Cravigan, Daniel Harrison
Project Title: *RRAP-CS-01-V1 GBR Atmospheric survey*

Project Scheme: CSIRO Scholarship Top-Up 2020

Awarded: \$34,000

Chief Investigators:

Project Title: *Sources and Transference Processes of Cloud Condensation Nuclei in the Waters around Australia*

Project Scheme: CAR Postdoctoral Fellowship 2020

Awarded: \$99,179

Project Title: *Postdoctoral Fellowship Offer from the Centre for Air pollution, energy and health Research (CAR) - Nathan Cooper*

Project Scheme: Jinan University Scholarship Extension - Eva Johanna Horchler 2020

Awarded: \$7,125

Chief Investigators: Zoran Ristovski

Administered by external organisations (QUT Co-CI)

Project Scheme: ARC Discovery Projects, led by Monash University

Awarded: \$466,964

Chief Investigators: Yuming Guo, Michael Abramson, Guy Marks Lidia Morawska, Fay Johnston, Jane Heyworth, Geoffrey Morgan, Luke Knibbs

Project Title: *Multi-Country Study on Health Effects of Bushfire Air Pollution (DP210102076)*

Project Scheme: Horizon 2020

Awarded: 899,125 EUR / \$1,523,850 AUD (QUT will receive \$232,920 AUD)

Chief Investigators: Milena Jovačević-Stojanovic, Alena Bartonova, Saverio De Vito, Zoran Ristovski

Project Title: *VIDIS: Virtual Centre for distributed atmospheric sensing for reduction of pollution pressures*

Project Scheme: National Foundation for Medical Research and Innovation (NFMRI): Cystic Fibrosis Grant / Barbara Stow-Smith CF Innovation Grant 2020

Awarded: \$64,985

Chief Investigators: Scott Bell, Claire Wainwright, Rachel Thomson, Peter Sly, Luke Knibbs, Rebecca Stockwell, Graham Johnson, Congrong He, Lidia Morawska

Project Title: *Mycobacteria Acquisition from Potable Water*

9. Other Public Sector / New Consultancy Research Projects Commenced

Project Scheme: Frontier SI 2020

Awarded: \$183,000

Chief Investigators: Kerrie Mengersen, Nathan Eaton, Wenbiao Hu, Lidia Morawska, Darren Wraith, Belinda Spratt, Paula Fievez

Project Title: *AusEnHealth Digital Twin - Scoping Study and Conceptual POC: FrontierSI Project 5H06*

Project Scheme: Prince Charles Hospital Foundation - Emerging Researcher Grant (2018-2020)

Awarded: \$3,669

Chief Investigators: Zoran Ristovski, Branka Miljevic, Reece Brown

Project Title: *Inflammatory effects of e-cigarette aerosols*

9. Conference Presentations (Keynote/Plenary)

Lidia Morawska

1. Plenary Presentation, **2nd Climate Change Roundtable**, held at QUT in Brisbane, Australia, on 18 February 2020
2. Plenary Presentation, **CAR workshop on ‘Exposure assessment, data fusion and measurement error workshop’**, session on “**Data sources for air pollution monitoring**”, hosted by the Centre for Air pollution energy and health Research (CAR), Woolcock Institute of Medical Research, Sydney, on 23 March 2020
3. Plenary Presentation, **Health Effects Institute Annual Conference 2020**, hosted online in Boston, Massachusetts, USA from the 5-7 April 2020
Presentation: *Ultrafine Particles: What Progress Have We Made and What Questions Remain?*
4. Plenary Presentation, **ISIAQ Webinar**, on 25 May 2020
Presentation title: *The airborne infection spread in buildings – it’s time to stop it!*
[To download this presentation](#) | [To view the Video](#)
5. Plenary Presentation, **European Respiratory Cluster Antwerp (EURECA)**, on 19 June 2020
Presentation title: *The airborne transmission of COVID-19*
[Link to the Proceedings](#)
6. Plenary Presentation, **VuMedi** on 29 June 2020
Presentation title: *New comment on COVID-19 Airborne Transmission Analysis: How Can Airborne Transmission of COVID-19*
[To view the Video](#)
7. Plenary Presentation, **CME training course ‘Webinar/SYNCHRONOUS FAD AIR POLLUTION AND COVID-19: MECHANISMS, PRELIMINARY FINDINGS AND WAYS AHEAD’**, organized by **Fondazione Menarini and of Scientific Committee**, on 15 July 2020
Presentation: *It is not heresy: airborne transmissions of viral infections occur all around us!*
8. Plenary Presentation, **ISIAQ Webcast, ‘Airborne transmission of COVID-19’**, on 16 July 2020
Presentation: *Modelling Infection Risk from Indoor Aerosol Exposure to SARS-CoV-2*
9. Plenary Presentation, **Professional Development Webinar of the Institute of Healthcare Engineering Australia - Professional Development (IHEA Qld)**, on 23 July 2020
Presentation: *Airborne transmission of viral infections and how to minimise it*
10. Presentation, **SBS Engineers on Airborne Transmission of COVID-19**, on 23 July 2020
Presentation: *Airborne transmission of viral infections and how to minimise it*
11. Invited Panellist & Plenary Presentation, **ASEAN Smart Cities Initiative of the Asian Development Bank (ADB)**, on 25 August 2020
Presentation: *Airborne transmission of COVID-19 and beyond this pandemic*
12. Keynote Presentation, **CLEAN 2020 Virtual Summit**, on 25 August 2020
Presentation: *Minimizing airborne transmission of COVID-19 indoors*
[To view the presentation](#)
13. Plenary Presentation, **Airborne Transmission of SARS-CoV-2: A Virtual Workshop of the National Academy of Sciences and NASEM Environmental Health Matters Initiative (EHMI)**, on 26-27 August 2020
Presentation: *Size characteristics of particles generated by people*
[To view the Presentation](#)
14. Plenary Presentation, **Online COVID-19 education series ‘Quick Tips for Fast Thinking’**, of the American College of Cardiology (ACC), 3 September 2020
Presentation: *It is time to address airborne transmission of COVID-19*
[To view the Video](#) | [For more information](#)

15. Plenary Presentation, **Lunch and Learn Series on Airborne Transmission of COVID-19** of the **Indoor Air Quality Association Australia (IAQAA)**, on 4 September 2020
Presentation: *The importance of mitigating airborne transmission of SARS-CoV-2*
[To view the Video](#) | [For more information](#)
16. Plenary Presentation, **Workplace Health Without Borders (WHWB) COVID19 Webinars**, on 15 September 2020
Presentation: *Why Should We Get Serious About Airborne COVID-19 Transmission In Schools?*
[To download this presentation](#) | [To view presentation on YouTube](#)
17. Plenary Presentation, **Airborne Transmission Best Brains Exchange**, on the topic of “**Transmission Routes for COVID-19 – Implications for Public Health**”, on 16 September 2020
Presentation: *The science and control of airborne infection transmission*
18. Plenary Presentation, **CGC-NVMM Seminar**, of the **Contact Group Health and Chemistry (CGC) and the Netherlands Society of Environmental Medicine (NvMM)**, on 17 September 2020
Presentation: *How aerosols contribute to the transmission of SARS-CoV-2?*
19. Plenary Presentation, **Workshop at the ISES Annual Meeting**, of the **Contact Group Health and Chemistry (CGC) and the Netherlands Society of Environmental Medicine (NvMM)**, held on the 20 September 2020
Presentation: *How aerosols contribute to the transmission of SARS-CoV-2?*
20. Plenary Presentation, **ESCMD Conference on Coronavirus Disease (ECCVID)**, of **The European Society of Clinical Microbiology and Infectious Diseases (ESCMID)**, on the topic of “**Healthcare building design to hold the next pandemic at bay**”, on 23-25 September 2020
Presentation: *How COVID-19 will impact future healthcare setting design?*
21. Plenary Presentation, **The Great Indoors: Environmental Quality, Health and Wellbeing in a Quarantining Society Webinar**, on the 1-2 October 2020
Presentation: *Great Indoors with Great Air*
22. Plenary Presentation, **Webinar RESPIRAMI – AIR POLLUTION**, on 14 October 2020
Presentation: *Ultrafine Particles: What Progress Have We Made and What Questions Remain?*
23. Plenary Presentation, **11th World Clean Air Forum** on the theme: “**The Roles of Air Quality Management in the COVID-19 Pandemics**”, of the **Global Alliance for Clean Air (GACA)**, on 20 October 2020
Presentation: *The importance of mitigating airborne transmission of SARS-CoV-2*
24. Plenary Presentation, **NSW/ACT CASANZ AGM**, on 20 October 2020
Presentation: *Exposure and transmission pathways of COVID-19*
25. Plenary Presentation, **Indoor Air 2020 Conference**, on 1-5 November 2020
Presentation: *Pollution free indoor air: Utopia, or reality just around the corner?*
26. Plenary Presentation, **REHVA Brussels Summit 2020**, of the **Federation of European Heating, Ventilation and Air-conditioning Associations**, on 5 November 2020
Presentation: *Buildings and Us: what we learned from COVID-19 and what will change*
[To download the slides](#)
27. Plenary Presentation, **AIRAH's Outlook 2020 Conference**, of the **AIRAH International HVAC&R Conference Organisers**, on 10 November 2020
Presentation: *Buildings and Us: what we learned from COVID-19 and what will change*
28. Plenary Presentation, **CASANZ Meeting QLD 2020**, on 12 November 2020
Presentation: *Science, Dogmas, Politics and the Virus is Laughing*
29. Plenary Presentation, **QUT Christmas Celebration and Carols in November**, on 18 November 2020
Presentation: *2020: a year to forget?*

30. Plenary Presentation, **Aerosol transmission of COVID-19 symposium**, of the Peking University in Beijing, China, on 20 November 2020
Presentation: *Latest progress on understanding and mitigating aerosol transmission of COVID-19*
31. Plenary Presentation, **6th Annual Conference of the ACC-AQSM**, from 24-26 November 2020
Presentation: *Science, Dogmas, Politics and ...the virus is laughing!*
32. Plenary Presentation, **Congreso Internacional de Calidad de Aire Interio, of La Asociación de Fabricantes de Equipos de Climatización, AFEC; la Asociación Técnica Española de Climatización y Refrigeración, ATECYR; y la Federación de Empresas de Calidad Ambiental en Interiores, FEDECA**, on 26 November 2020
Presentation: *Airborne transmission of respiratory infections: beyond COVID-19*
33. Plenary Presentation, **Woolcock Researchers and Clinicians**, of the **Woolcock Institute of Medical Research**, on 27 November 2020
34. Plenary Presentation, **Webinar Tools for ISIAQ**, on 30 November 2020
35. Plenary Presentation, **ERS/ISEE Workshop on Air Pollution, Climate Change and COVID-19 Recovery**, of the **University of Copenhagen**, on 2 December 2020
Presentation: *The role of air pollution in transmission of SARS-CoV-2 virus*
36. Plenary Presentation, **Environmental Monitoring and Assessment Sciences Branch Meeting, Queensland Department of Environmental Science**, 3 December 2020
Presentation: *Science, Dogmas, Politics and the Virus is Laughing*
37. Plenary Presentation, **22nd Australasian Fluid Mechanics Conference (AFMC2020)**, 7-10 December 2020
Presentation: *The flow physics of COVID-19 and implication for infection control*
38. Invited Keynote Presentation, **VuMedi AFMC Young Professionals Event**, American Physical Society CRRG webinar series on COVID-19, 9 December 2020.
Presentation: *The virus is in the air, and not just the virus*
39. Plenary Presentation, **AGU Fall Meeting 2020**, on the topic of “**Confounding Majors Disasters in 2019-2020**”, of the **AIRAH International HVAC&R Societies**, held on the 7-11 December 2020
Presentation: *Physics of the virus and why it matters*

10. Presentations - Other

- None to mention.

11. Activities – Other

Lidia Morawska

- None to mention.

12. Media Appearances

Zoran Ristovski

- Chanel 7 News on 31 March, "[Pollution levels in our seas and skies appear to be dropping](#)"
- ABC Australia's Ocean Odyssey in June, "[Australis's Ocean Odyssey – a journey down the East Australian Current](#)"

Graham Johnson

- [Nine News](#) on 3 September, in a segment discussing air conditioners being silent spreaders of coronavirus.

Lidia Morawska

- With Zhao Weijie on 31 December, "[Experts hotly discuss: Has the new crown epidemic made the air better?](#)"
- Global Journalism Fellow at the University of Toronto with Robin Blades on 11 December, "COVID transmission in prisons"
- The New York Times with Jonah Kessel on 8 December, "Spread of Covid-19 in musical environments"
- National Geographic on 8 December, "Modelling approach to infection spread"
- Deutsche Welle, Germany's international broadcaster, on 3 December, "[Latest research: How to prevent coronavirus infections | COVID-19 Special](#)"
- ABC News on 16 November with Emily Bourke, "[It's time to rethink indoor airflow to reduce the spread of COVID-19, say experts](#)"
- Polish Weekly Magazine (one of the top) with Piotr Stankiewicz on 14 November, "Młoda Polska 2020."
- The Australian on 3 November, "[Scientist warns of Covid's insidious breath of infection](#)"
- Chronicle with Francie Diep on 28 October, "Re-Thinking Campus Spaces"
- Healthy Debate, Canada with Paleah Moher on 27 October, "[What's in the air? Aerosol transmission drawing increased attention](#)"
- The Washington Post with Aaron Gregg on 23 October, "Study of airplane coronavirus transmission from the U.S. Transportation Command"
- National Geographic on 17 October, "[Why some people are superspreaders and how the body emits coronavirus](#)"
- TIME Magazine with Jamie Ducharme on 19 October, "[Is There Any Safe Way to Socialize Inside This Winter?](#)"
- Avenir French Magazine with Nicolas Gutierrez on 7 October, "COVID-19 and Restaurants"
- The Biologist Magazine with Tom Ireland on 6 October, "COVID-19; "There'll be PhDs written on the psychology and politics of this topic""
- Scientific American with Jim Daley on 1 October, "[How to Avoid COVID while Voting](#)"
- Major Polish journal on 30 September, "Airborne transmission of COVID-19"
- The Australian's Higher Education Writer with Jill Rowbotham on 30 September, "airborne transmission indoors"
- Le Figaro, France with Anne-Laure Fremont on 16 September, "[Covid-19: «Mieux aérer les lieux clos est crucial pour lutter contre le virus»](#)"
- ABC News with Bridget Judd on 13 September, "[In the wake of COVID-19, epidemiologists have found their profession in the spotlight. So how are they coping?](#)"
- La Republica (Peru) with Adolfo Cuicas on 10 September, "[Científicos persisten contra el "prejuicio histórico" de la OMS que ahora incluye la COVID-19 \[VIDEO\]](#)"
- ABC News with Suzannah Lyons on 9 September, "[What a bus trip and bathroom plumbing can tell us about COVID-19 transmission](#)"
- ABC News with Bridget Judd on 9 September, "How you've adapted to the current situation (social distancing, potentially wearing a mask, any areas or activities you're now avoiding etc.)"

- 7 News Brisbane on 4 September, "[People with asthma say they're suffering, describing the approval process as flawed](#)"
- The Fifth Estate with Poppy Johnston 4 September, "Airborne transmission of COVID-19"
- Bloomberg News, Melbourne with Jason Gale on 27 August, "[Coronavirus in Vacant Apartment Implicates Toilet in Spread](#)"
- The Business Insider Australia with Hilary Bruek on 26 August, "[The 6-foot social-distancing rule is based on nearly 80-year-old science. Scientists at MIT and Oxford have created a traffic-light system to use instead](#)"
- ABC Science with Suzannah Lyons on 25 August, "[How might coronavirus be transmitted on a flight and what can you do to protect yourself?](#)"
- ABC News on 21 August with Emily Clark, "[Restaurants have been identified as coronavirus hotspots, so is it safe to dine out?](#)"
- HVAC&R Australia with Mark Vender on 20 August, "[COVID-19 forcing a rethink on ventilation](#)"
- Al Jazeera Video on YouTube, on 19 August explaining "[Coronavirus: What did they get wrong?](#)"
- Wired on 6 August, "[Could a Janky, Jury-Rigged Air Purifier Help Fight Covid-19?](#)"
- The Australian Financial Review on 28 July, "[Is it really safe to fly?](#)"
- Al Jazeera, Doha, Qatar on 27 July, "[Airborne transmission of COVID-19](#)"
- El Noticiero A24 broadcast of the A24 channel, in Buenos Aires, Argentina on 23 July, "Airborne transmission of COVID-19"
- Radio Rivadavia AM 630, Buenos Aires, Argentina with Joaquin Santos on 23 July, "Airborne transmission of COVID-19"
- The Guardian on 21 July, "Airborne transmission of COVID-19"
- The Courier Mail with Antonia O'Flaherty on 20 July, "Airborne transmission of COVID-19 and whether school classrooms should be held outside where possible?"
- McKinsey & Company with Sam G. Samdani on 20 July, "General state of our understanding of how the Covid-19 virus "works" and then dive into your work on how it spreads"
- ABC Statewide Radio Victoria on 20 July, "Airborne transmission of COVID-19"
- SBS with Dominic White on the 23 July, "Airborne transmission of COVID-19"
- Guidepoint Global with Steven Steinhardt on 20 July, "Airborne transmission of COVID-19"
- ISIAQ Interview with Brad Prezant on 16 July, "Airborne transmission of COVID-19"
- Business Insider with Hilary Bruek on 16 July, "Airborne transmission of COVID-19"
- Radio 702, South Africa on 16 July, "Airborne transmission of COVID-19"
- The Economist Babbage weekly science and technology podcast, on 16 July, "[Something in the air—what is known about covid-19 transmission?](#)"
- The Washington Post on 15 July, "[Need some good news about covid-19? Here are six reasons for optimism](#)"
- Australian Academy of Science, on 15 July, Video on "Airborne transmission of COVID-19"
- ISIAQ Newsletter, on 13 July, "Airborne transmission of COVID-19"
- Vox with Brian Resnick on 13 April, "[The debate over "airborne" coronavirus spread, explained](#)"
- ABC Radio, The Signal Program with Stephen Smiley on 13 July, "[Learning to love face masks](#)"
- Chemistry World, US Magazine on 13 July, "Airborne transmission of COVID-19"
- TBS eFM Radio, [This Morning Program](#), Seoul, South Korea on 13 July, "[Airborne transmission of COVID-19](#)"
- Andhrajyothi Daily Newspaper, India on 12 July, "Airborne transmission of COVID-19"
- ABC News with Paige Cockburn on 11 July, "[WHO says it can't rule out airborne spread of COVID-19, so what does this change?](#)"
- The Age with Liam Mannix on 11 July, "[How a Chinese restaurant explains Australia's mask riddle](#)"
- El Pais (one of Spain's key newspapers) with Javier Salas on 11 July, "Airborne transmission of COVID-19"
- Newzroom Afrika, Johannesburg, South Africa with Ahmed Kajee on 11 July, "Airborne transmission of COVID-19"

- BBC London, **The Andrew Marr Show** with Hannah Wilkinson on 10 July, "[Airborne transmission of COVID-19](#)"
- National Geographic Press with Maya Wei-Haas on 10 July, "[What 'airborne coronavirus' means, and how to protect yourself](#)"
- ABC 7:30 Program, **TV Interview** with Norman Swan on 10 July, "**Aerosol transmission of covid-19 and the letter to the WHO**"
- Newstalk ZB, **New Zealand (NZ biggest radio station)** with Laura Heathcote on 10 July, "[WHO report says airborne coronavirus transmission 'cannot be ruled out'](#)"
- TV Globo Brazil, "**Fantástico**" Program, **TV Interview** on 10 July, "[Coronavirus can be transmitted by air, warns group of scientists](#)"
- NewsChain, UK, on 10 July "[Covid-19's Aerosol Transmission Risks](#)"
- SBS World News, **TV Interview** with Rachel Cary on 9 July, "**Why the letter to the WHO is important, and why the world should be looking at the airborne risk of coronavirus?**"
- FOX10 Television, USA with Kelly Taylor Hayes on 9 July, "[Airborne COVID-19: What does it mean, how does it increase risk and what are the steps to stay safe?](#)"
- German Issue of **Scientific American** with Christian Honey on 9 July, "**Airborne transmission of COVID-19**"
- India Today Group, **New Delhi** with Parthajit Bhattacharyya on 9 July, "[Wearing mask a must to protect from Covid airborne transmission: Experts](#)"
- ABC National **TV Interview** with Jonathan Hair on 9 July, "**If Australians should be wearing face masks**"
- ABC News, **TV Interview** with Mikey Slezak on 9 July, "[COVID-19 in the Air](#)"
- **Nature News Feature** by Dyani Lewis on 8 July, "[Mounting evidence suggests coronavirus is airborne — but health advice has not caught up](#)"
- TIME Magazine with Jamie Ducharme on 8 July, "**Airborne transmission of COVID-19**"
- BBC World News in London, **Live TV Interview** with Shaun Hassett on 8 July, "**WHO's response to the open letter you co-authored regarding airborne transmission of Covid-19**"
- Chanel 4 News, UK with Millicent Teasdale on 8 July, "**Airborne transmission of COVID-19**"
- Financial Times, London with Anna Gross on 8 July, "**Minimising airborne transmission of Covid-19 indoors**"
- ABC News with Rahni Sadler on 8 July, "[What kind of mask will protect you from coronavirus and are there some you should avoid?](#)"
- The Age and Sydney Morning Herald with Dana McCauly and Liam Mannix on 8 July, "[Deputy chief medical officer backs mask-wearing in public](#)"
- Sky News, **TV Interview** on 8 July, "**Airborne transmission of COVID-19**"
- Hospital and Healthcare Australia on 8 July, "[Scientists' plea: we can't ignore airborne spread of COVID-19](#)"
- Radio New Zealand, **Lately Program** with Karyn Hay on 8 July, "**Airborne transmission of COVID-19**"
- Norwegian Daily, **Aftenposten, Norway** with Inger Lise Hammerstrøm on 8 July, "**Airborne transmission of COVID-19**"
- RCN News, Colombia with Paola Andrea Toro on 8 July, "**Airborne transmission of COVID-19**"
- El Mercurio Newspaper, Santiago, Chile with Matías Bakit on 8 July, "**Covid 19 and the different debates and positions in the scientific world**"
- TO VMA Newspaper, Greece with Theodora Tsoli on 8 July, "**Airborne transmission of SARS-CoV2**"
- Vox.com in Washington DC, with Brian Resni on 8 July, "**Airborne transmission of COVID-19**"
- Bangladesh TV, **Chantel I** with Sumon Ali on 8 July, "**Airborne transmission of COVID-19**"
- **Weekendavisen** with Peter Harmsen on 7 July, "**Utility of face masks in curbing the spread of SARS-CoV-2, and the implications of the growing recognition that the virus is airborne**"
- The BMJ with Owen Dwyer on 7 July, "[Covid-19: Airborne transmission is being underestimated, warn experts](#)"
- Bloomberg London with Suzi Ring and Jason Gale on 7 July, "[A New Year's Feast Spread the Virus and Now It Divides Scientists](#)"
- The Australian Financial Review with Mark Ludlow on 7 July, "[Masks and better ventilation needed to stop COVID-19 spread](#)"

- Triple J's Hack Program, Podcast Interview on 7 July, on "[Airborne transmission of viruses](#)"
- Le Temps (France) with Sylvie Logean on 7 July, "[Open letter on airborne transmission](#)"
- Le Figaro (France) with Anne-Laure Fremont on 7 July, "[Covid-19: le coup de gueule de 239 scientifiques contre les recommandations de l'OMS](#)"
- MSN with Mary Van Beusekom on 7 July, "[Quotes for Center for Infectious Disease Research and Policy \(CIDRAP\) at the University of Minnesota, on airborne transmission of COVID-19](#)"
- Medscape Medical News with Victoria Giardina on 7 July, "[COVID-19 Update: WHO Steps Up, Mask Exemptions](#)"
- Medscape Medical News with Damian McNamara on 7 July, "[WHO Plans to Address Airborne COVID-19 Transmission](#)"
- Dainik Bhaskar (Hindi National Newspaper) on 7 July, "[Coronavirus is an airborne disease, saying scientists who have called the World Health Organisation \(WHO\) to revise its guidelines, advisories in relation to the contiguous infection](#)"
- KBS World Radio, Korea24 Program with Suhryung Hong on 7 July, "[Airborne transmission of COVID-19](#)"
- MEA WorldWide with Mihika Basu, Senior Editor, Health & Science, Bengaluru, India on 7 July, "[Open letter on airborne transmission](#)"
- Canadian Press with Hina Alam on 7 July, "[Open letter on airborne transmission](#)"
- Radio 2GB, Podcast Interview with Michael McClaren on 7 July, "[WHO ignores aerosol risk of coronavirus](#)"
- Center for Infectious Disease Research and Policy at the University of Minnesota on 7 July, "[Open letter on airborne transmission](#)"
- The New Daily on 7 July, "[Scientists challenge official view of virus spread in open letter to WHO](#)"
- [Weekendavisen](#), Denmark with Asia Correspondent Peter Harmsen on 6 July, "[Face masks and SARS-CoV-2](#)"
- The Straits Times, Singapore with Timothy Goh on 6 July, "[Open letter on airborne transmission](#)"
- NBC News with Akshay Syal on 6 July, "[Open letter on airborne transmission](#)"
- BBC News Live TV with Nikki Jecks on 6 July, "[Open letter on airborne transmission](#)"
- BBC World News TV with Driss Mekkaoui on 6 July, "[Open letter on airborne transmission](#)"
- ABC News Live TV with Hannah Southcott on 6 July, "[Health experts urge WHO to acknowledge aerosol transmission of COVID-19](#)"
- 9 News with Richard Wood on 6 July, "[Coronavirus: Scientists warn disease is spread through airborne transmission indoors](#)"
- The Australian Financial Review with Tom Burton on 6 July, "[Infected people in the towers should be removed, experts say](#)"
- ABC Radio, PM Program with Nick Grimm on 6 July, "[Open letter on airborne transmission](#)"
- ABC Health & Wellbeing by Paige Cockburn on 6 July, "[Coronavirus spreads through the air as aerosol, 230 scientists write in open letter to World Health Organisation](#)"
- ABC Health Report, ABC Radio National with Norman Swan on 6 July, "[Coronavirus: Warning aerosol transmission risks are being ignored](#)"
- CNN News, TYV Program "Connected in the World" with Rose Roobeek on 6 July, "[Open letter on airborne transmission](#)"
- The Guardian with Hannah Devlin on 6 July, "[WHO underplaying risk of airborne spread of Covid-19, say scientists](#)"
- laSexta Noticias, Spanish Media with Cristina Cerdeira Dobarro on 6 July, "[Open letter on airborne transmission](#)"
- Japanese TV News (Asachan, TBS Channel), with Tomoaki Kibe on 6 July, "[Open letter on airborne transmission](#)"
- ADG with Kemal Atlay on 6 July, "[Open letter on airborne transmission](#)"
- BBC World Service, London with Kai Chen on 6 July, "[Open letter on airborne transmission](#)"
- CTC News Canada with Richard Flanagan on 6 July, "[Scientists warn of overlooked danger from coronavirus-spreading airborne microdroplets](#)"
- QUT Press Release on 6 July, "[We ignore COVID-19 airborne spread indoors at our peril: 239 scientists](#)"

- **SBS World News** with Darren Mara on 5 July, [“Open letter on airborne transmission”](#)
- **The Los Angeles Times** by Richard Read on 4 July, [“Scientists say WHO ignores the risk that coronavirus floats in air as aerosol”](#)
- **Gizmo Chronicle** by Chris Andrew on 3 July, [“Exactly How Masks Went From Don’t- Wear to Must-Have During the Coronavirus Pandemic”](#)
- **Wired** with Megan Molteni and Adam Rogers on 2 July, [“How Masks Went From Don’t-Wear to Must-Have”](#)
- **Bloomberg** with Jason Gale on 29 June, [“Reducing SARS-CoV-2 transmission in aerosols”](#).
- **Mexico's National University** with Javier Cruz-Mena on 29 June, [“main factors contributing to the risk of catching enough airborne viral particles in closed environments”](#).
- **Mexico's National University** by Javier Cruz Mena on 29 June, on [“ways of reducing potential viral flux through open surfaces on the face \(mouth, nose, eyes\)”](#).
- **The Ticker** by Farah Javed on 29 June, [“WHO changes stance on face masks and condones its usage worldwide”](#)
- **RTL News, Podcast Interview** with Roland Strijker on 24 June (the biggest private TV news broadcaster in The Netherlands), on [“Reducing SARS-CoV-2 transmission in aerosols”](#)
- **Center for Infectious Disease Research and Policy (CIDRAP)**, University of Minnesota Podcast on 24 June, [“Episode 13: What I Know and Don't Know About COVID-19”](#). Mike Osterholm speaking about Professor Morawska at around 49 mins, 25 seconds.
- **Maldita Ciencia** on 22 June, [“¿Qué sabemos sobre el riesgo de contagio de coronavirus al viajar en coche, tren, avión o barco?”](#)
- **Nature News** by Dyani Lewis on 22 June, [“on ventilation and face masks”](#).
- **The Los Angeles Times** with Richard Read on 22 June, on [“the findings of the paper on the Skagit Valley Chorale outbreak”](#).
- **Heliyon** by Tiffany Chen on 18 June, on [“How to choose healthier urban biking routes: CO as a proxy of traffic pollution”](#).
- **ABC News** with Paige Cockburn on 18 June, on [“our paper on airborne transmission of SARS-CoV-2”](#).
- **ES&T** by Sarah Griffiths on 17 June, [“The air that I breathe”](#).
- **National Public Radio, NPR Science** with Maria Godoy on 16 June, on [“Identifying airborne transmission as the dominant route for the spread of COVID-19”](#) PNAS paper.
- **El Pais** by Javier Salas on 14 June, [“Is the coronavirus airborne?”](#).
- **ABC News** by Paige Cockburn on 14 June, [“When and how can choirs sing again without becoming 'super spreaders'?”](#)
- **American Thinker** by John G. Macguire on 14 June, [“The Coronavirus Mask Charade Continues”](#)
- **The New York Times** with Apoorva Mandavilli on 12 June, [“the WHO’s release of a document today saying again that aerosols are not a source of transmission”](#).
- **Atmospheric Tales Ep04, Podcast interview** with Grace Formentin on 10 June, titled [“From Australian bushfires to disease transmission: Role of aerosols”](#) to discuss bushfires in Australia and their impact on air quality.
- **BBC World Service, The Evidence** on 4 June, on [“the topic of airborne transmission”](#).
- **Down to Earth** by Bhavya Khullar on 1 June, [“COVID-19: Study points to 3-pronged approach to mitigate airborne transmission”](#)
- **Los Angeles Times** by Richard Read on 1 June, [“Scientists to choirs: Group singing can spread the coronavirus, despite what CDC may say”](#), this was then picked up by [Finger Lakes Times](#).
- **WELT, German Newspaper** by Birgit Herden on 18 May, about [“The most likely routes of transmission of COVID-19”](#).
- **Finder.com.au** on 18 May, [“Where to buy face masks for kids online in Australia”](#)
- **The Guardian** by Melissa Davey on 6 May, [“Coronavirus and airborne transmission: scientists warn Australia to be on guard”](#)
- **Transport Extra** on 6 May, [“Lockdown is 'the mother of living labs' for air quality researchers: pollution linked to virus deaths”](#)

- [iwantthenews.com](#) by Dr. Nic Giebler on 29 April, "[Getting outside may be more important than ever](#)"
- [Republicworld.com](#) by Zaini Majeed on 29 April, "[Study Suggests Traces Of Coronavirus Can Linger In The Air](#)"
- [New York Post](#) by Heather Mac Donald on 28 April "[Central Park shows just how over-fearful of coronavirus we've become](#)"
- [Santé Magazine](#) with Oriane Dioux on 28 April.
- [Spectator USA](#) by Heather Mac Donald on 27 April "[The paranoid style in COVID-19 America](#)"
- [Spanish Health Magazine Health 24](#), on 22 April, "[Indoor precautions important to curb airborne transmission of coronavirus, experts warn?](#)"
- [The Sydney Morning Herald](#) by Sherryn Groch on 21 April, "[Coronavirus is not behaving in the air the way scientists expect](#)"
- [Le Figaro](#) by Anne-Laure Fremont on 21 April, "[Coronavirus spreading in a restaurant in China](#)"
- [News Hub / MSN News / Chinese Herald](#) by Dan Satherley and Rachel Sadler on 21 April, "[Coronavirus: Nurse caring for COVID-19 patients catches the virus, despite wearing PPE](#)"
- [Forbes](#) magazine by Victoria Forster on 20 April, "[Is 6 Feet Apart Really Enough Physical Distancing During The Coronavirus Outbreak?](#)"
- [News Hub](#) by Dan Satherley on 18 April, "[Coronavirus: COVID-19 can hitch a ride on your shoes - study](#)"
- [The New York Times / New Zealand Times / Costa Rica News / The Pine Belt News / The Twin Cities Pioneer Press](#) by Tara Parker-Pope on 17 April, "[Is the Virus on My Clothes? My Shoes? My Hair? My Newspaper?](#)"
- [News Hub / MSN News](#) by Dan Satherley on 17 April, "[Coronavirus: Presume the virus is airborne, expert says](#)"
- [ABC News](#) by Tegan Tailor on 16 April, "[Can coronavirus be spread via the air, and how do I protect myself?](#)", same story also picked up by [NZ City News](#) on 16 April, "[Can coronavirus be spread via the air, and how do I protect myself?](#)"
- [QUT Press Release](#) on 16 April, "[Indoor precautions essential to stem airborne COVID-19](#)"
- [News Medical Life Sciences](#) reviewed by Emily Henderson on 16 April, "[Public health precautions to lower airborne transmission of COVID-19 virus](#)"
- [Brisbane Times](#) by Sherryn Gorch and Felicity Lewis on 16 April, "[What effect does weather have on COVID-19? Your questions answered](#)"
- [The Washington Post](#) by Chris Alcantara on 14 April, "[Human particle spread and its role in transmitting COVID-19](#)"
- [Australia's Science Chanel](#) by Elizabeth Finkel on 9 April, "[Is the novel coronavirus airborne? It's complicated, but here's what we know](#)"
- [Brisbane Times / Sydney Morning Herald / The Age / WA Today](#) by Sherryn Groch on 9 April, "[Scientists divided over key coronavirus question](#)"
- [Cairns Post / Herald Sun / The Courier-Mail / The Mercury / Townsville Bulletin / The Daily Telegraph / Ntnews.com.au / The Advertiser, Adelaide / Geelong Advertiser / Gold Coast Bulletin](#) by Danielle O'Neal, [The Courier-Mail](#) on 9 April, "[Researchers urge authorities to increase ventilation indoors to halt airborne transmission of coronavirus](#)"
- [The Health Paradise](#) by David Jacob on 8 April, "[A public message from top 20 experts on coronavirus protection](#)"
- [QUT Press Release](#) on 8 April, "[COVID-19 could be spread on breath of infected people](#)"
- [The Denver Post](#) on 7 April by Chris Bianchi, "[Experts offer tips on how to properly make, wear masks](#)"
- [Cosmos Magazine](#) by Elizabeth Finkel on 3 April, "[What do we know about how COVID-19 is transmitted?](#)"
- [The Philadelphia Enquirer](#) by [Tom Avril](#) on 3 April, "[The degree to which everyday activities might produce aerosols of the new coronavirus.](#)"
- [Nature News](#) by Dyani Lewis on 26 March, "[Is the coronavirus airborne? Experts can't agree](#)"
- [News.com.au / Australian Associated Press](#) by Dominica Sanda on 26 March, "[Virus shutdown will reduce air pollution](#)"

- Croakey.org on 24 March, "[More testing and surveillance needed for COVID-19](#)"
- ABC News on 8 January, "[From air purifiers to DIY hacks: What are the best ways to try to keep your home smoke-free?](#)"

13. Visitors

- Prof. Li Li, *Visiting Research Academic*, Shanghai University, 15 January – 15 February 2020.
- Dr. Heidi Salonen, *Visiting Research Academic*, Aalto Finland, 25 October 2019 – 3 February 2020.
- Dr. Woodrow Pattinson, *Visiting Research Fellow*, Mote New Zealand, 17 February 2020.
- Dr. Piotr Grzybowski, *Visiting Research Fellow*, Warsaw Institute of Technology, 23 February – 31 March 2020.