## **ENERGY in BUILDINGS 2024**

Date: November 22-23, 2024
Place: Athens, Hellas

Event:





#	Sani Dimitroulopoulou, PhD
Title:	Prof. Sani Dimitroulopoulou Principal Environmental Public Health Specialist – Indoor Environments Air Quality and Public Health UK Health Security Agency UK
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Presentation title:	Impact of Climate change policies on IAQ and health

There is growing evidence that projected climate change has the potential to significantly affect public health. Much of this impact is likely to arise by amplifying existing risks related to heat exposure, flooding, and chemical and biological contamination in buildings. Identifying the health effects of climate change on the indoor environment, and risks and opportunities related to climate change adaptation and mitigation, can help protect public health.

We review relevant scientific literature, focusing on housing-related health effects likely to arise through either direct or indirect mechanisms of climate change or mitigation and adaptation measures in the built environment. Certain changes to the indoor environment can affect indoor air quality or promote the growth and propagation of pathogenic organisms.

Increasing airtightness of dwellings in pursuit of energy efficiency could have negative effects by increasing concentrations of pollutants (such as PM2.5, CO and radon) derived from indoor or ground sources, and biological contamination. These effects can largely be ameliorated by mechanical ventilation with heat recovery (MVHR) and air filtration, where such solution is feasible and when the system is properly installed, operated and maintained. Groups at high risk of these adverse health effects include the elderly (especially those living on their own), individuals with pre-existing illnesses, people living in overcrowded accommodation, and the socioeconomically deprived.

A better understanding of how current and emerging building infrastructure design, construction, and materials may affect health in the context of climate change and mitigation and adaptation measures is needed. Long-term, energy efficient building design interventions, ensuring adequate ventilation, need to be promoted.

## Short CV:

Sani is a Principal Environmental Public Health Scientist on Indoor Environments at UK Health Security Agency. She is also a Visiting Professor at the UCL Bartlett School in the UK. She works closely with colleagues from UK Government Departments and Organisations such as. WHO and CIBSE, to provide expert advice on indoor air quality and health.

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## Professor Sani Dimitroulopoulou

Sani is a Principal Environmental Public Health Specialist, Air Quality and Public Health within the Environmental Hazards and Emergencies Department, UK Health Security Agency (formerly PHE), leading on indoor air quality and health.

She is also a Visiting Professor, at the Institute for Environmental Design and Engineering, The Bartlett School of Environment, Energy and Resources, UCL.

She has thirty-year experience on air pollution and health, developed through her PhD at Imperial College, her work at Imperial College and Building Research Establishment (BRE) in the UK, as well as at the National Centre for Environment and Sustainable Development (Greek Environment Agency) and the University of West Macedonia in Greece. Her research interests include exposure assessment to air pollution, based on modelling and monitoring of outdoor and indoor air pollution and ventilation, health impact assessments and development of environmental public health indicators and indoor air quality guidelines. She has published more than 100 peer-reviewed papers in international scientific journals and conferences and more than 50 technical research and consulting reports. She was the Editor of the State of the Environment Report 2008, for Greece.

She works closely with colleagues from UK Government Departments (e.g. DHSC, DfE, DLUHC, Defra, DESNZ, HSE) and Organisations (e.g. WHO, NICE, CIBSE, RCP/RCPCH, BSI) to provide expert advice on indoor air quality and health. She participated in the Cross Whitehall Group for the revision of the Building Regulations, Part F and she sits on the Advisory Board organised by DLUHC for the revision of HHSRS (Housing Health and Safety Rating System). She was the UKHSA project manager for the development of the DHSC/UKHSA/DLUHC guidance on "Damp and mould: understanding and addressing the health risks for rented housing providers".

- Chair of UK Indoor Environments Group (UKIEG)
- Fellow of ISIAQ Academy (International Academy of Indoor Air Quality and Climate)
- Member of the British Standards Committee on Indoor Air