

Tweesers

ISEE Young 2024





Oral sessions

June 6, 11:30-13:00





O1 - Air Pollution 1: New evidence on health effects of air pollution



Although air pollution levels have decreased between 1995 and 2016, the mortality effect size estimates per unit increase in NO2, PM10, and PM2.5 have not changed accordingly.

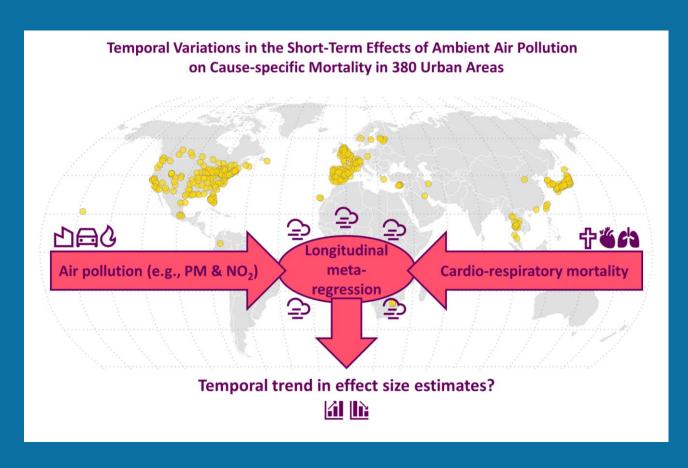
Maximilian Schwarz













O1 - Air Pollution 1: New evidence on health effects of air pollution



We breathe in air pollution daily. In the long term, this may lower our ability to identify odors and serve as an early indicator of multiple neurodegenerative diseases as we grow older.

Nikolaos Nikolaou













O2 - Neurological & Mental Health: New evidence on effects of environmental exposures on neurological and mental health



Light at night exposure was associated with impairment of biomarkers of neurodegeneration and exposure above 30 nW/cm2/sr was associated with risk of conversion to dementia in a cohort of Italian subjects with mild cognitive impairment.

Tommaso Filippini

Want to know more?

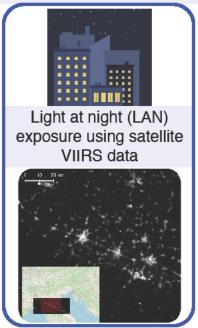


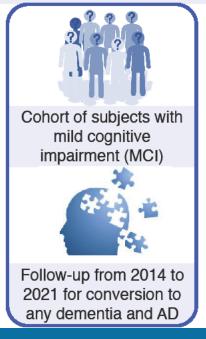


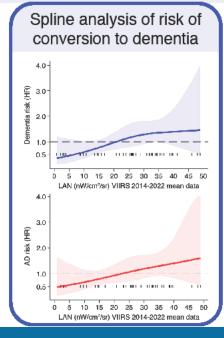




Exposure to outdoor artificial light at night and risk of dementia









O2 - Neurological & Mental Health: New evidence on effects of environmental exposures on neurological and mental health



Three-dimensional indicators provide a more comprehensive perspective of the natural and built environment. In the Rome administrative cohort, increased residential greenness is associated with a decrease in the use of drugs for psychiatric disorders.

Federica Nobile











O4 - Chemicals: Exposure and health effects



The Ronneby mother-child cohort provides a unique opportunity to explore the temporal changes of blood pressure during pregnancy and their correlation with PFAS exposure levels, contributing to the growing body of knowledge surrounding environmental influences on maternal health.

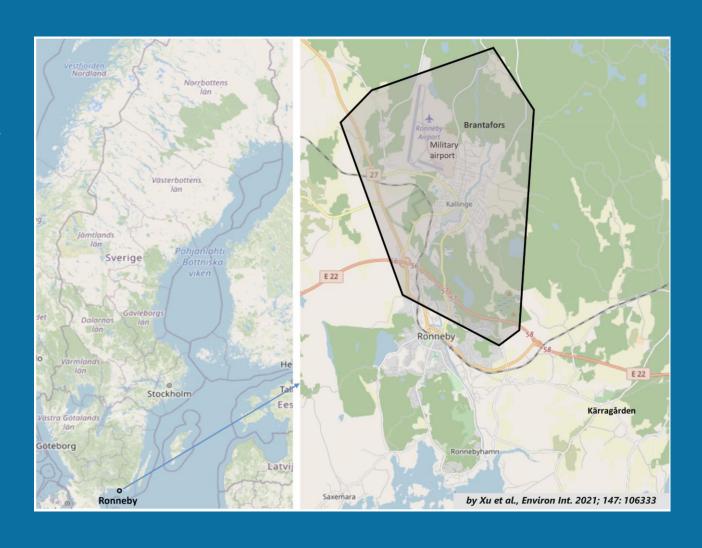
Erich Batzella











O4 - Chemicals: Exposure and health effects



Hair is a biological matrix representative of the exposure to contaminants and could highly improve biomonitoring campaigns. But is it a better biomonitor than blood and urine?

Ashna Lallmahomed











O4 - Chemicals: Exposure and health effects



Children in South Africa are exposed to several hazardous insecticides with exposure levels exceeding in some cases the European guidelines. High individual variability in urine biomarkers levels within a week, highlights the need for repeated samples in epidemiological research

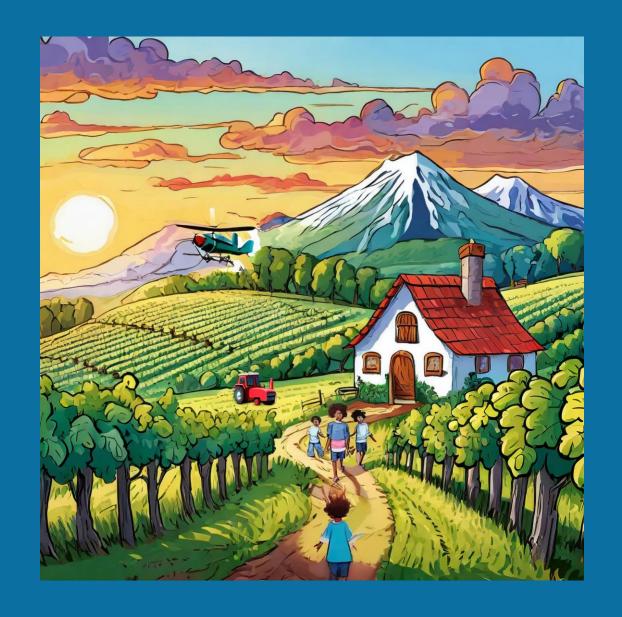
Adriana Fernandes Veludo











O5 - Environmental exposures & Pregnancy



Unraveling the impact of black carbon exposure during pregnancy: it doesn't just stop at the lungs. Initial evidence on increased levels of placental DNA damage in the presence of BC accumulation. May this be attributed to its possible carcinogenic risk?

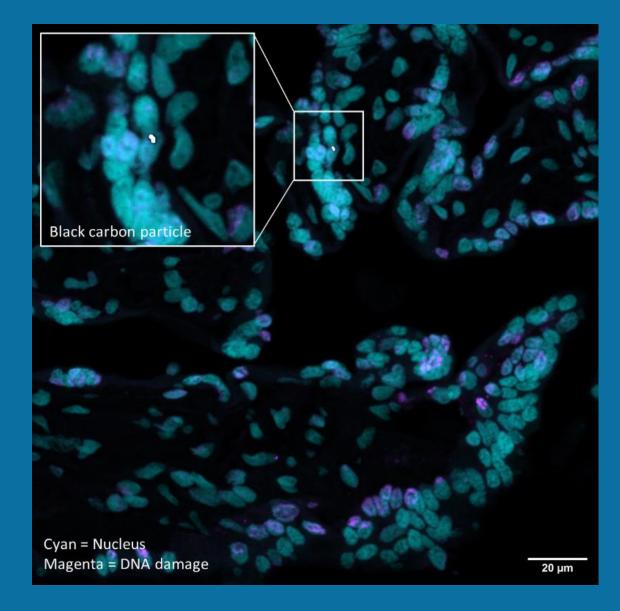
Charlotte Van Der Stukken











O5 - Environmental exposures & Pregnancy



Exploring the enigma: PFAS's collective impact on fetal development and placental function. Singular PFAS compounds have been shown to have negative health effects and remain ubiquitous in the environment. Mixtures of these toxic chemicals have yet to be explored.

Bethany Knox











O5 - Environmental exposures & Pregnancy



Pregnancy is a vulnerable period for mothers and for their newborns. Occupational exposures during this period may impact intrauterine growth.

Marie Tartaglia

Want to know more?

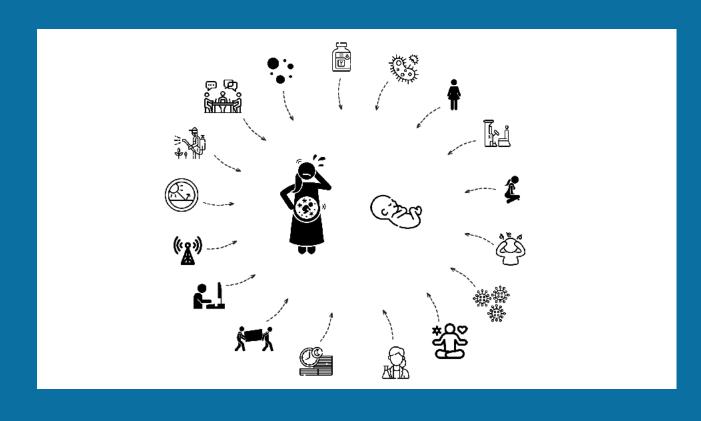






June 6 (11:30-13:00 PD10





O6 - Social & Physical Environment



Child executive functioning is influenced by physical and social exposures including air quality, street network indicators, altitude, the extent of blue and green spaces, youth ratio, income, and parental education.

Carmen Peuters













O6 - Social & Physical Environment



Ultrafine particles and black carbon may have negative health effects but remain unregulated. Understanding the complex interplay of sociodemographic factors and how they drive disparities in exposure to these pollutants is important to develop effective mitigation strategies.

Emmanuelle Batisse

Want to know more?

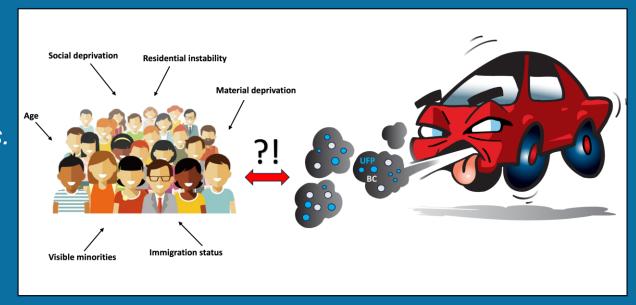






June 6 (1) 11:30-13:00 PD12

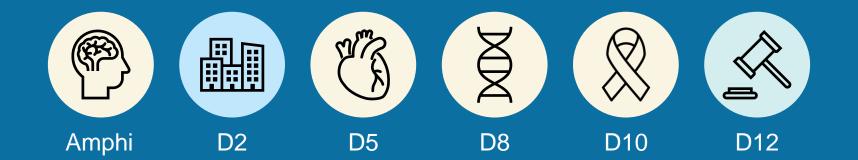






Oral sessions

June 6, 16:00-17:30







Air pollution exposure during pregnancy and childhood was associated with persistent and age-limiting changes in white matter microstructure across adolescence in a large population-based birth cohort. Findings were present even at concentrations below European Union guidelines.

Michelle Kusters















NO2 exposure during the first two years of life is associated with poorer attentional function in children from 4 to 8 years of age, especially in boys

Anne-Claire Binter













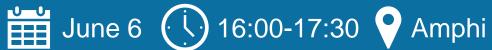


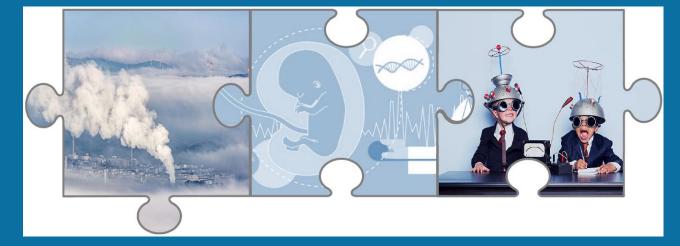
Placental DNAm on genes previously related to neurodevelopmental disorders and on specific gene regions may partly mediate the associations between prenatal exposure to ambient air pollution and child cognition

Ariane Guilbert







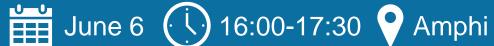




Long-term exposure to air pollution and noise might be related to differences in brain functional network organization in adolescents. We found that higher exposure levels were associated with differences in the time spent in specific brain connectivity configurations.

Monica Lopez-Vicente











O8 - Urban: Environmental exposures & health in the urban context



Living near blue space in Greek urban areas is associated with a decreased risk of natural cause mortality, while it is more beneficial in areas with low compared with areas with higher pollution levels

Maria-Iosifina Kasdagli

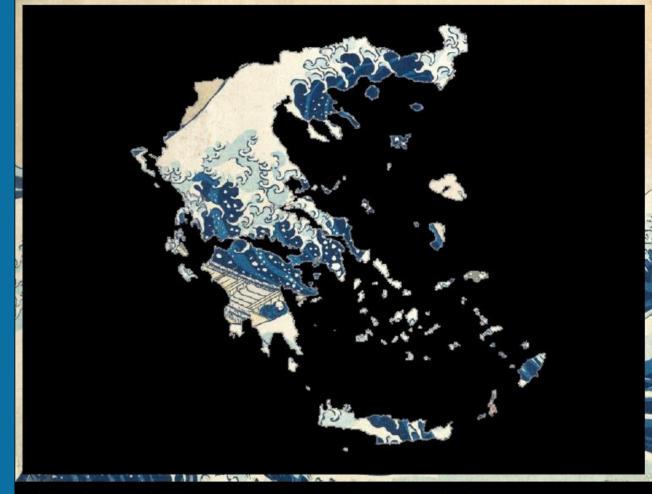
Want to know more?











This image is an adaptation of 'The Great Wave off Kanagawa' by Katsushika Hokusai. The original artwork is in the public domain. Adaptation created by M.I Kasdagli



O8 - Urban: Environmental exposures & health in the urban context



Middle-aged and older adults living in higher exposures to PM10 and PM2.5 may be at higher risk of metabolic syndrome and its phenotypes despite the inconsistency of the effects among the European cohorts. No evidence considering protective effect of greenness was found.

Andrea Dalecka











O9 - Cardiovascular: New evidence on effects of environmental exposures on cardiovascular health



Loud traffic noises are linked to a higher risk of myocardial infarction, especially when air pollution levels are elevated. A wake-up call about the health impacts of city living.

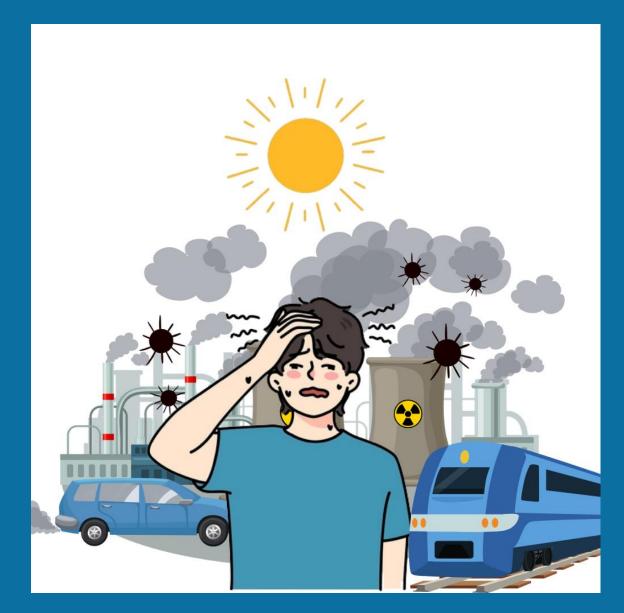
Huyen Nguyen Thi Khanh













O9 - Cardiovascular: New evidence on effects of environmental exposures on cardiovascular health



Environmental exposures such as air pollution, traffic noise and greenness play a crucial role in residents' health. Understanding associations of combined exposures on cardiovascular health, accounting for socio-economy, lifestyle and diet, aid to improve disease prevention.

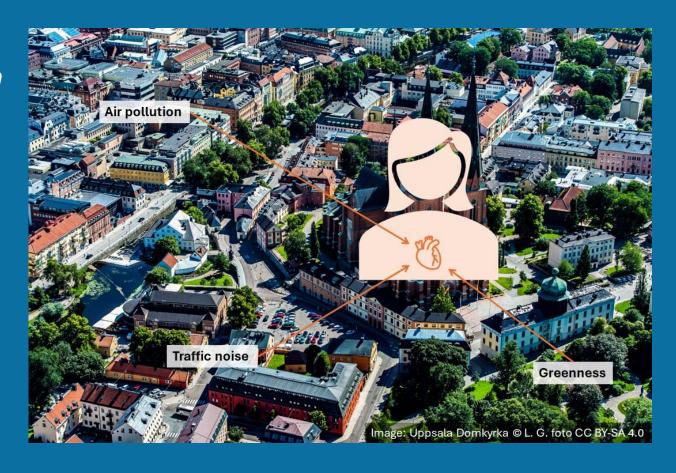
Lara Stucki









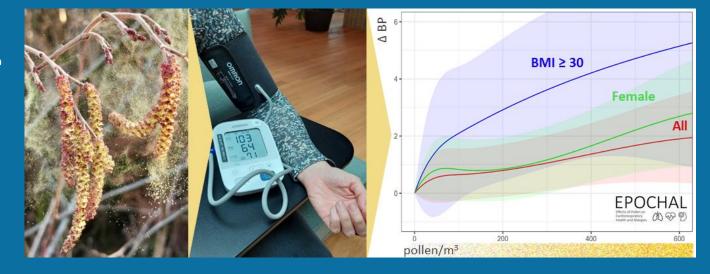


O9 - Cardiovascular: New evidence on effects of environmental exposures on cardiovascular health



Short-term pollen exposure may increase your blood pressure – especially if you are female or obese.

Alexandra Bürgler













O10 - Omics: Effects of environmental exposures on methylome, proteome and microbiome



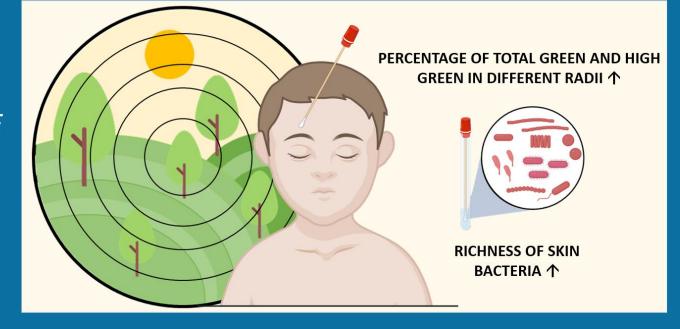
We found that total green and high green in different radius distances were positively associated with skin microbial richness (observed richness, Chao1 richness, and ACE richness) in young children. Green in smaller radius distances was stronger associated.

Thessa Van Pee











O10 - Omics: Effects of environmental exposures on methylome, proteome and microbiome



Does the gut microbiome decide what foods hurt you? Well.. it might for Irritable Bowel Disease Patients! And we can use metabolomics to detect what food trigger your symptomatic response! So be nice to those little bugs, they can turn against you!

Robert van Vorstenbosch











O11 - Cancer: New evidence on effects of environmental exposures on cancer risk

Exposure to artificial light at night increases the risk of breast cancer by 20% in a dosedependent manner, with more pronounced effects observed in premenopausal and overweight women.

Teresa Urbano



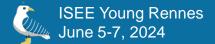












O12 - Policy



Sufficiency-based policies, favouring active transportation, can achieve WHO's physical activity recommendations through active transport alone. Relying on future technologies to attain carbon neutrality risks exacerbating physical inactivity, leading to adverse health impacts.

Léo Moutet











O12 - Policy



First study on Open Streets' health impacts in 15 Latin American cities suggests population health benefits through physical activity. Scaling events, space, frequency, and duration can enhance health outcomes, positioning it as a tool for health promotion and disease prevention.

Daniel Velázquez-Cortés













Oral sessions

June 7, 11:30-13:00







Double trouble alert! When air pollution and temperature both spike in India, the impact magnifies. We will explore how this dual challenge demands urgent climate-smart strategies, especially in India's extreme exposure context. Let's dive into the health and climate conversation

Jeroen de Bont















High air temperature and pressure associated with increased risk of Legionnaire's disease cases support the role of weather events on the disease transmission and symptom severity.

Apolline Saucy

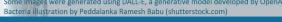














Too Hot to Handle: How may ambient temperature affect the frequency of ambulance dispatches, and who is in the highest risk? If you are young, then you should probably be concerned.

Tomáš Janoš













101,333 (8.77%) deaths can be attributed to non-optimal temperatures in Peru. From the total attributable deaths, 94,274 (8.16%) can be attributed to cold and 7,059 (0.61%) to heat

Katia Karen Hidalgo Olvera









O14 - Exposure Assessment

Are you sensitive to the invisible magnetic fields, like 5% of the population? Join the "ELF Hiker" on a hike across Switzerland! He measures the extremely-low frequency magnetic fields (ELF-MF) in the environment. Highest levels were recorded near high voltage lines at 1.2 µT!

Nicolas Loizeau

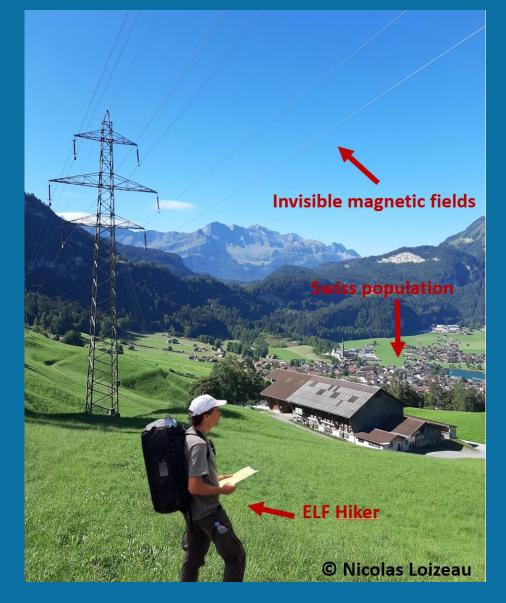














O14 - Exposure Assessment



Can we in detail chart the urban activity spaces of daily living and shifts during major life events? Comprehensive GPS data analysis unlocks the potential. In pregnancy, some aspects of activity spaces change dramatically while others stay constant.

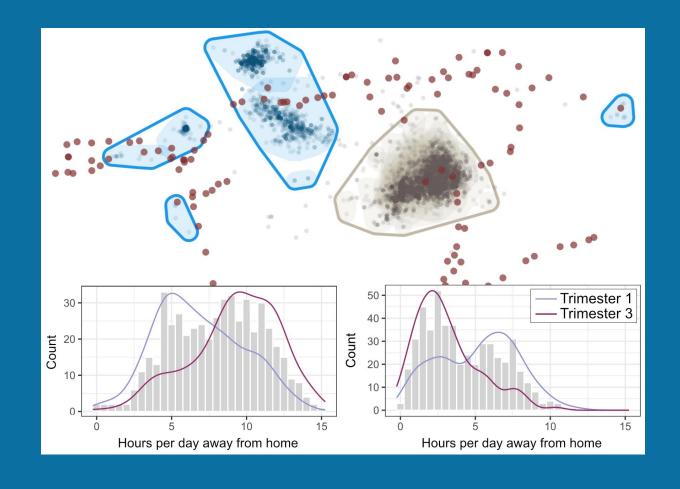
Karl Samuelsson











O15 - Air Pollution 2: Specific attributes of effects of air pollution on health



Air pollution affects human cognition. Airborne metals are components of air pollution and were assessed by sampling mosses in cemeteries of Lyon, a French city. Individual exposure to metals such as cadmium and lead was associated with poorer cognitive performance.

Antoine Lafontaine











O15 - Air Pollution 2: Specific attributes of effects of air pollution on health



A study reveals that Europe's heat-risk days have increased, especially southern regions experiencing more extremes. Heat-related air pollution episodes have also increased, primarily driven by ozone and PM2.5.

Zhaoyue Chen















O15 - Air Pollution 2: Specific attributes of effects of air pollution on health



Increases in day-to-day changes in ambient air pollution concentrations are associated with increases in daily cause-specific mortality rates across the world. Stricter policies on mitigating ambient air pollution are required to improve public health.

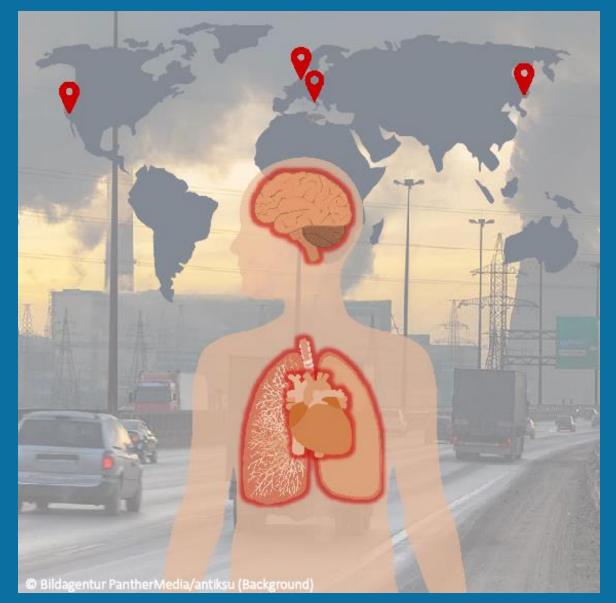
Anne Marb













O17 - Respiratory: New evidence on effects of environmental exposures on respiratory health



Pneumonia has been associated with goat farm exposure. We compare the respiratory microbiota of goat farmers, pneumonia patients, and controls. Goat farmers exhibit a distinctive microbiota profile, implying that direct goat farm exposure influences the respiratory microbiota.

Beatrice Cornu Hewitt

Want to know more?

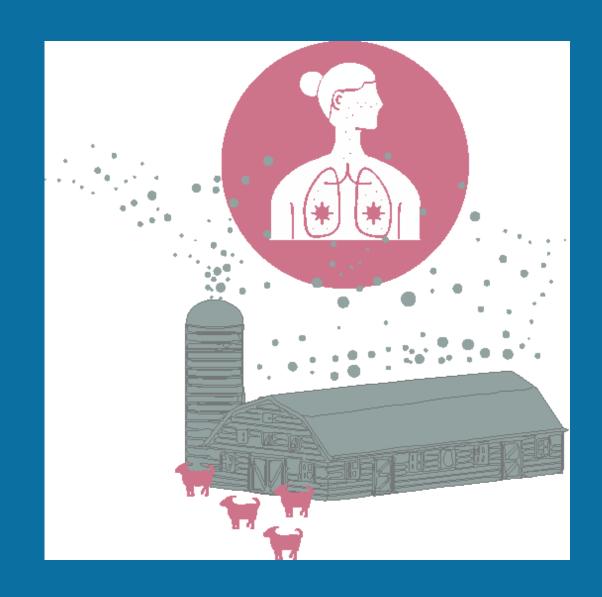






June 7 (1) 11:30-13:00 PD10





O17 - Respiratory: New evidence on effects of environmental exposures on respiratory health



An Italian cohort study linked infants' first-year exposure to heat waves, and to some extent wildfire PM and drought, with increased wheezing risk. The study emphasizes the need to integrate climate change mitigation to safeguard population health.

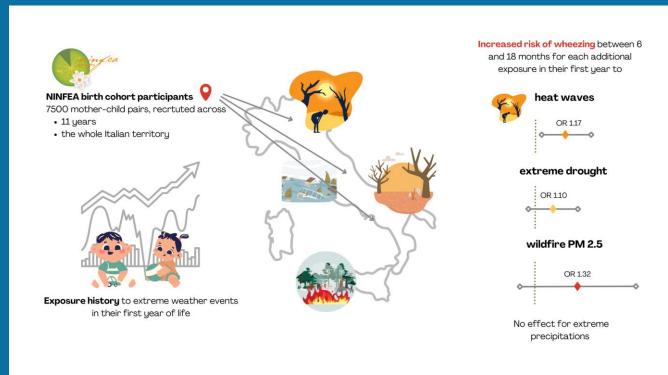
Silvia Maritano











O18 - Pre- & perinatal Exposure and health effects in later life



During pregnancy, exposure to per- and polyfluoroalkyl substances (PFAS) can induce cardiometabolic disorders in adolescents. These troubles are particularly pronounced in menstruated girls, resulting to a decrease in adiposity parameters.

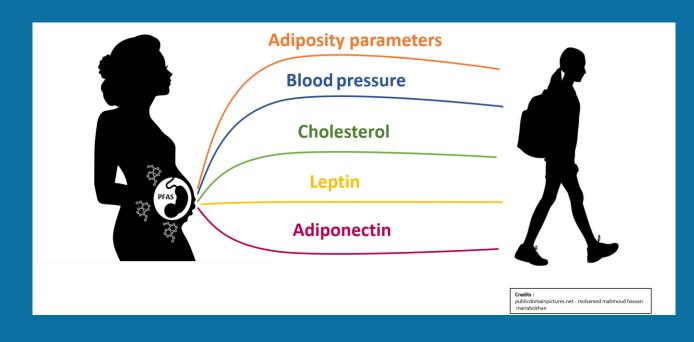
Naomi Lejeune











O18 - Pre- & perinatal Exposure and health effects in later life



Did you know that the benefits of breastfeeding are potentially underestimated by air pollution exposure? While previous research delved into various chemical pollutants in human milk, we recently discovered the presence of black carbon particles in human milk.

Charlotte Cosemans

Want to know more?







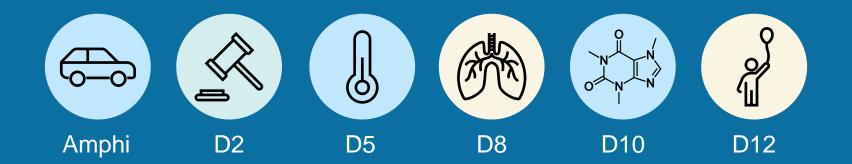
June 7 (1) 11:30-13:00 PD12







Speed talksJune 6, 14:30-15:30





ST1 - Air pollution: From air quality standards to health impacts and beyond



India has high levels of air pollution and is the most populated country. To help explore where to act we characterized the areas with historically high levels and increasing or decreasing with time to aid optimal resource allocation and policy interventions to maximize benefits.

Suganthi Jaganathan

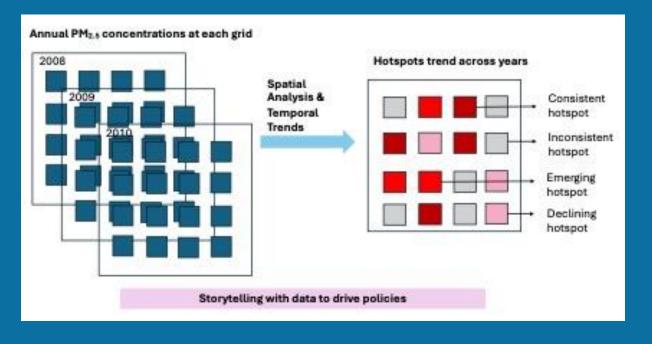












ST1 - Air pollution: From air quality standards to health impacts and beyond

The 2021 WHO Air Quality Guidelines call for stricter air quality standards. The Swiss Federal Commission for Air Hygiene recommends to adopt most of the proposed values for Switzerland in its latest report from November 2023.

Meltem Kutlar Joss

Want to know more?







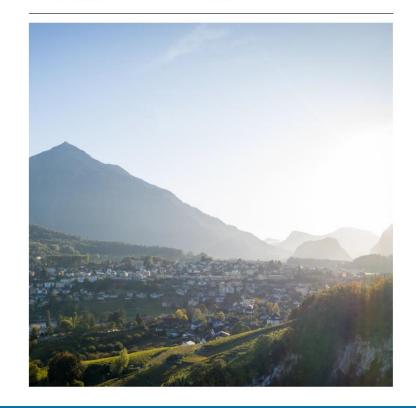




Commission fédérale de l'hygiène de l'air CFHA ommissione federale per l'igiene dell'aria CFIAR

Luftqualität 2023

Die neuen WHO-Luftqualitätsrichtwerte 2021 und ihre Bedeutung für die Schweizer Luftreinhalte-Verordnung







Exposure to green spaces can offer multifaceted health benefits, but the distribution and access to green space may influence the way residents experience green, and therefore the benefits they receive.

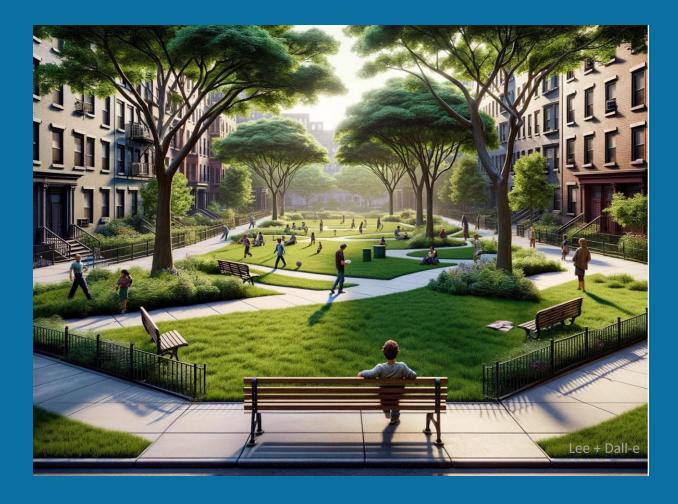
Melissa Lee













We conducted a mixed-methods systematic review assessing nature-based social interventions for their effectiveness in reducing Ioneliness. Group-based activities including natural elements cultivated connectedness and belonging, which are key mechanisms to reducing loneliness.

Ashby Sachs











Occupational exposure levels across low- and middle-income countries vary widely and can negatively impact worker's health. Reporting measured exposure levels is crucial to develop better research tools and investigate the risk of harmful exposures on working populations.

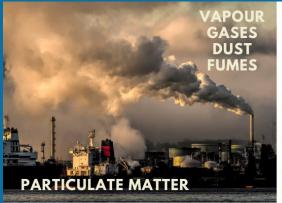
Valentina Quintero Santofimio





















Pregnant women's vulnerability and capacity to adapt to heat can be influenced by co-exposure to air pollution, vegetation and social deprivation. Characterizing environmental and social inequalities is key to support environmental justice and limit adverse pregnancy outcomes.

Lucie Adélaïde















The air pollution risk varies across Indian subpopulations and may increase due to the moderation of comorbidity and poor diet for chronic diseases. These risk factors need to be controlled to ensure achieving health justice and the aspirational SDG-3.8 goal in near future.

Debajit Sarkar











ST3 - Climate & Health

Unraveling climate mysteries with SaOI: A novel index capturing Sahara's dance with the Azores High. Join me at the congress to delve into the heartbeat of atmospheric dynamics! #SaOI #ClimateScience #ResearchJourney

Younes Tebbaai















ST4 - Respiratory health



We compared lung function in children living in 2 cities with significantly different air pollution levels. Significant decrease in spirometry results and higher frequency of seasonal rhinorrhea and cough episodes in children from the city with poor air quality was demonstrated.

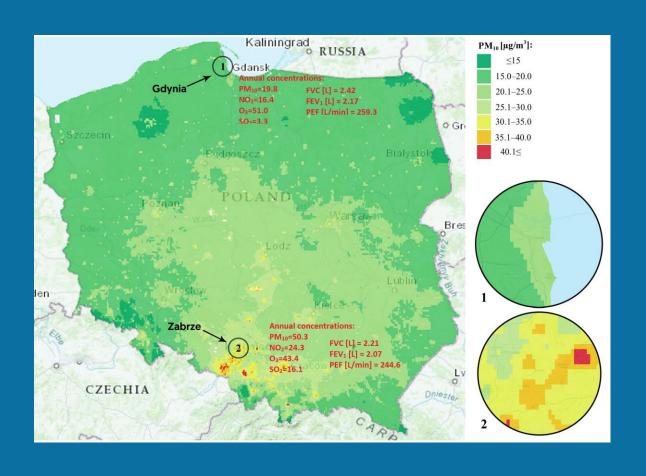
Artur Badyda













ST4 - Respiratory health



Our findings suggest that greenness may reduce the risk of rhinitis and asthma. This highlights the transformative potential of greenness in safeguarding respiratory wellbeing, and healthier future

Marine Savouré











ST4 - Respiratory health



Allergic symptoms (itchy eyes, sneezing) know no threshold: severity increases steeply with pollen concentration as soon as any allergenic pollen are in the air.

But this association is non-linear: beyond approximately 60-80 pollen/m3, the suffering does not get much worse.

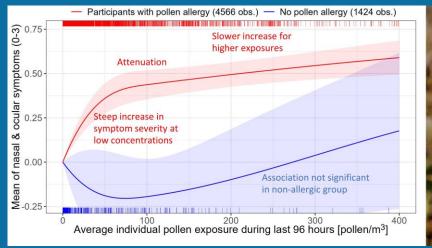
Marloes Eeftens















Prenatal exposure to persistent organic pollutants (POPs) like polychlorinated biphenyls, organochlorine pesticides and perfluoroalkyl substances alters levels of 11 keys sex steroid hormone levels of 12-year-old boys according to the French mother-child cohort PELAGIE.

Mareva Geslin











Exposure to metals and trace elements has been associated with increased dementia risk. Higher concentrations of manganese and selenium in serum and cerebrospinal fluid may predict conversion to different forms of dementia in young-onset Mild Cognitive Impairment individuals

Teresa Urbano

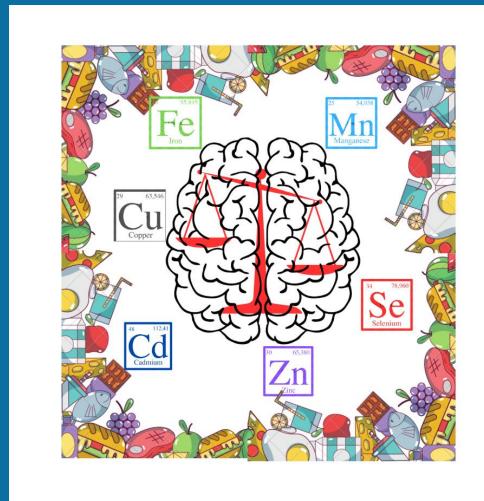
Want to know more?













Can all recall? In a cohort of French healthcare workers, we described questionnaire responses to use of chemicals in cleaning products by combinations of jobs and tasks. The resulting JTEM may reduce exposure misclassification when evaluating these chemicals' health effects.

Franziska Bright













Prenatal exposures to common phenols might shape our children's future behaviors. We investigated associations between pregnancy exposure to phenols and child behavior, and the role of cortisol as a mediator, using innovative data from two Spanish and French couple-child cohorts.

Matthieu Rolland















Children living near or in farms are exposed to multiple pesticides. In addition to oral and dermal exposure, inhalation of pesticides spraying drifts also play an important role.

Regina Molomo











ST6 - Child and adolescent health



Unveiling the climate pulse of Georgia! Adolescents take the lead in a study on climate awareness. Discover the insights, challenges, and youth-driven solutions shaping Georgia's climate consciousness. Let's empower the future for a sustainable tomorrow!

Ani Khachidze

Want to know more?











ST6 - Child and adolescent health



Explore the interplay of tranquility and sleep quality in 887 Swiss adolescents. Our findings reveal unexpected dynamics between quietness, green spaces, and sleep disturbance.

Xing Jiang

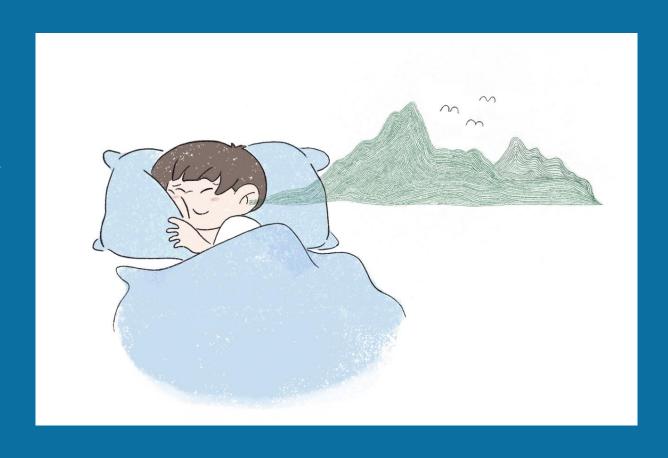
Want to know more?











ST6 - Child and adolescent health



Appetite hormones play a key role in energy homeostasis. Early life exposures such as air pollution, green spaces or psychosocial stress in children may alter appetite hormone levels which might possibly have implications in later development of obesity.

Thaïs De Ruyter

Want to know more?





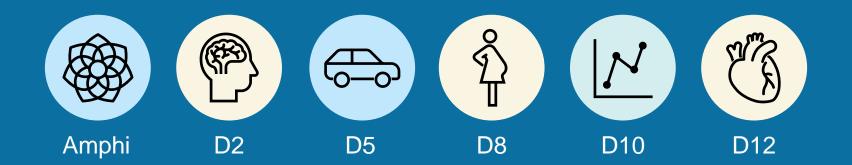








Speed talksJune 7, 14:30-15:30





ST7 - Exposome and urban exposures



Whether medical, environmental, or occupational, what if we considered all these sources of ionising radiation as a whole, rather than separately, when looking at their potential impact on human health?

Justine Sauce













How is air pollution affecting our brains' health? Our study examines a potential pathway – the olfactory bulb - linking air pollution exposure to cerebral microbleeds and white-matter lesions, using medical imaging data.

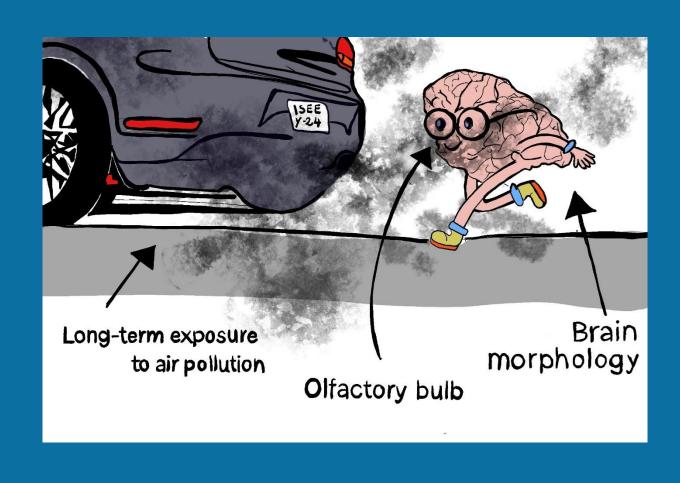
Margarethe Woeckel













Nocturnal railway traffic produces noise and vibration that can disrupt sleep. In addition to the amount of vibration experienced, attitudinal and situational factors also affect the likelihood of experiencing severe sleep disturbance caused by railway vibration.

Jurriaan Hoekstra















Proximity to surrounding greenness plays a protective role on mental health in urban areas but not in rural areas in France.

Zeinab Bitar















Tree cover and the presence of a garden and water were associated with improved attention in Polish children with and without ADHD, while grass tended to have negative impact.

Nitika Singh















Pesticide exposure poses a significant risk to farmer health by impairing cognitive function. Research conducted in Cajamarca, Peru, highlights a concerning correlation between pesticide exposure and decreased performance on the Raven's Test among farmers.

Pamela Mariapia Quispe Salcedo











ST9 - Air Pollution: from source to solution in occupational and Environmental settings



Using repeated parallel sampling of PM100 and PM10 with personal exposure assessment equipment provides first insights in the personal exposure of goat farm workers. Exposure was related to farm work activities telling us what tasks pose potential health risks

Aniek Lotterman











ST9 - Air Pollution: from source to solution in occupational and Environmental settings



Utilizing CRFs from two-pollutant models can mitigate the potential overestimation of the health impact of mixtures. The difference in coefficients between single- and two-pollutant models can be combined with a meta-analysis of the larger body of evidence in future HIAs.

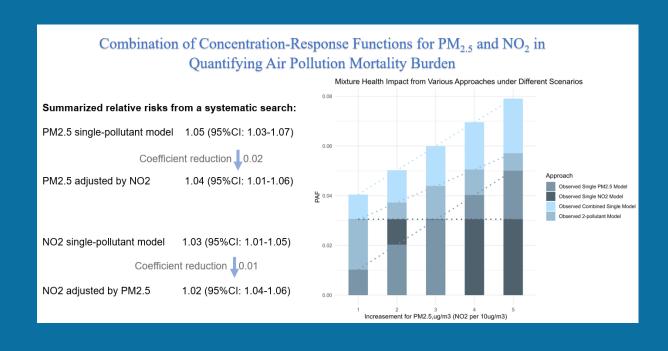
Xuan Chen













ST9 - Air Pollution: from source to solution in occupational and Environmental settings



Insight into the optimal sampling conditions for passive bioaerosol sampling. Validation of a novel home sampler demonstrates a robust, unintrusive, and cost-effective method for the sampling of medically relevant fungal spores in homes.

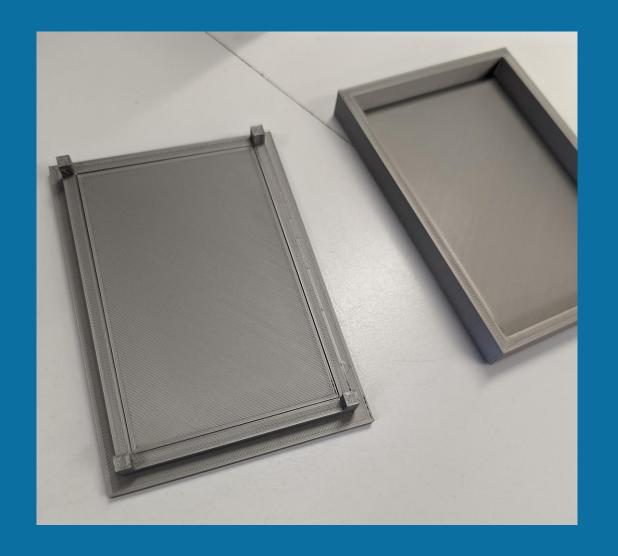
Robin Wroblewski











ST9 - Air Pollution: from source to solution in occupational and Environmental settings



Occupational exposure to higher concentrations of subway PM2.5 are associated with higher rates of sickness absence and mortality on the London Underground, however subway PM2.5 may not be the sole contributing factor to the adverse health effects.

Justie Mak













ST9 - Air Pollution: from source to solution in occupational and Environmental settings



By combining easy-to-use assessment tools (exposure matrices) with outdoor exposure modeling, an integrated approach is developed to assess individual exposure to ultrafine particles (UFPs) in all settings, for a better knowledge of the exposome and the health effects of UFPs.

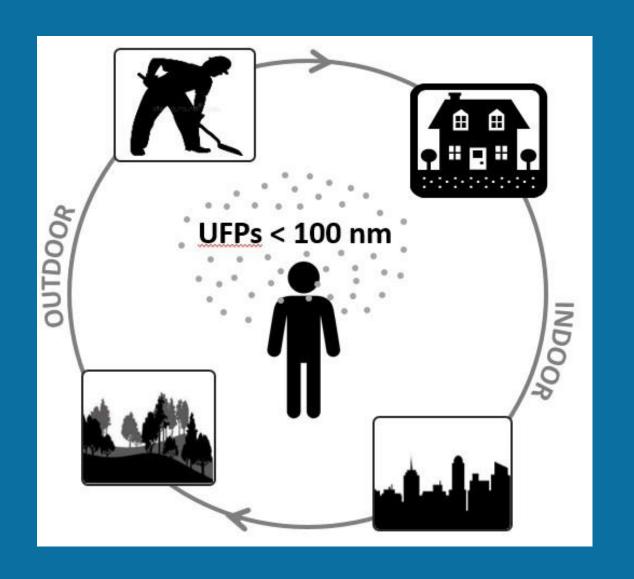
Audignon Durand Sabyne













We found robust cord blood proteomic signatures related to birth weight (ratio), and the majority of these proteins were still associated with rapid growth at 12 months and/or weight, overweight BMI z-score, and waist circumference in four-to-six-year-old children.

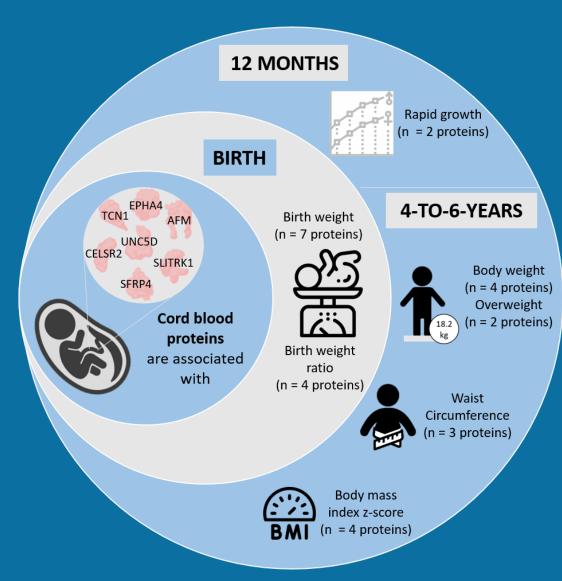
Thessa Van Pee













Extensive research has explored the relationship between gestational PM2.5 exposure and the risk of preterm birth, what does a synthesis of the evidence tell us about the overall direction of the evidence and the gaps in our understanding?

Shawn Lee













Climate change could impact health in the future by affecting pregnancies. High temperatures may increase the risk of preterm birth, which causes lifelong morbidities, especially for the exposures in mid-pregnancy and mothers from disadvantaged socioeconomic and ethnic groups.

Selin Girgin















Particulate matter and birth defects matter too!. A Colombian approximation between spatial concentration of particle matter and birth defects.

Stefany Guarnizo









ST11 - Exposure assessment and methods



Nitrate and trihalomethanes are common chemicals in drinking water. We used routine monitoring data in mainland France to estimate residential exposure to nitrate and THMs in drinking water for the CONSTANCES cohort for future association studies on breast and colorectal cancers.

Antoine Lafontaine











ST11 - Exposure assessment and methods



Traditional regression or machine learning? A pipeline to compare different methods and identify the driving environmental, socioeconomic and individual factors for cardiovascular health.

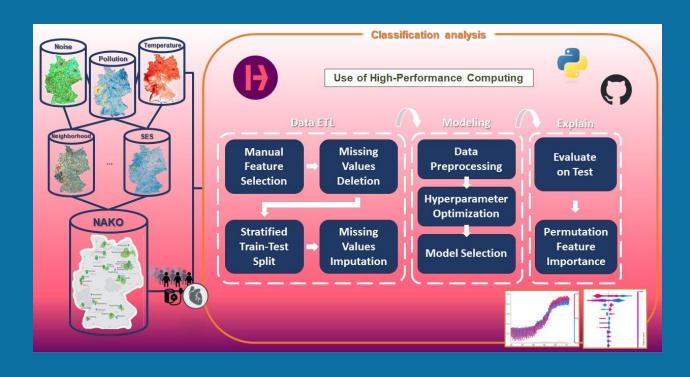
Nikolaos Nikolaou











ST11 - Exposure assessment and methods



Interested in the generation and enrichment of machine-readable and interoperable cohort metadata and its mapping with environmental and earth observation metadata? Then visit our MetaMap³ project which aims to build the basis for future environmental health analyses.

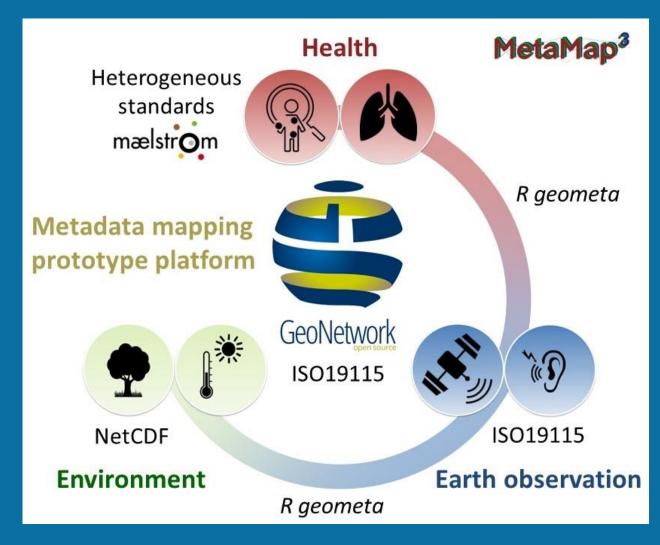
Kathrin Wolf













ST12 - Cardiometabolic and cardiovascular outcomes



As the ISEE Young seagull, children prenatally exposed to PCBs tend to have lower BMI at birth, followed by an accelerated BMI trajectory that reaches a plateau through adolescence

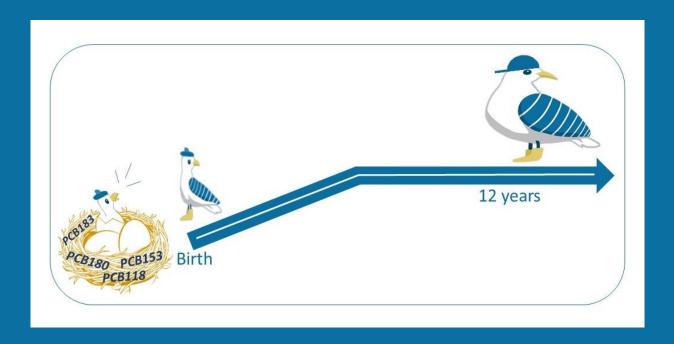
Nathalie Costet











ST12 - Cardiometabolic and cardiovascular outcomes



Firefighters are exposed to myriad of chemicals while being on duty, including benzotriazoles and benzothiazoles, for which the potential health effects are still unclear. Should firefighters be concerned about these unknown ingredients in their exposure cocktail?

Nina Pálešová

Want to know more?

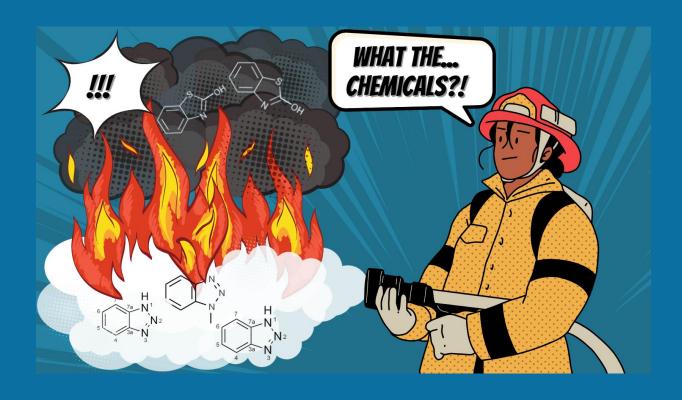






June 7 (1) 14:30-15:30 PD12





ST12 - Cardiometabolic and cardiovascular outcomes

This study revealed a positive association between changes in PFAS and changes in cholesterol levels. Given its longitudinal nature, our findings underscore the reversible impact of PFAS exposure on lipid alterations, emphasizing the importance of water treatment measures.

Erich Batzella

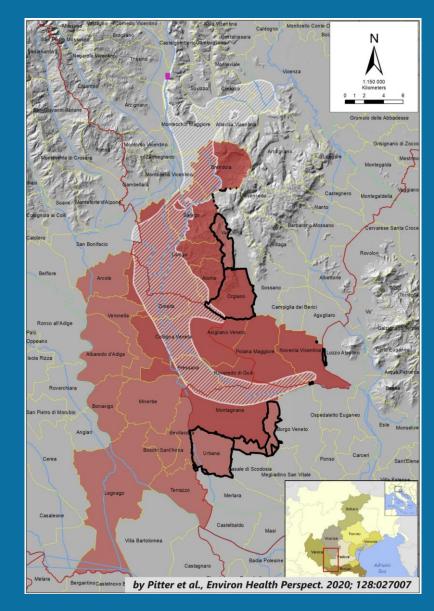














Early Morning Session 1



Ambitious AQ improvement policies lead to significant adverse health effects reductions. However, Implementation is not easy for decision-makers. Support of knowledge-based arguments could be a crucial element in this process. The picture shows the billboard with ECAC's data.

Dominika Mucha

Want to know more?







June 6 (1) 14:30-15:30 PRoom D5



