

FROM RESEARCH TO ACTION: THE EXPOSIM PROJECT SET TO TRANSFORM OUR UNDERSTANDING OF ENVIRONMENTAL IMPACT ON HEALTH

Ten organisations, spread over seven European countries, have been awarded 8.35 million euros of funding from the European Commission's Horizon Europe program and the Swiss State Secretariat for Education, Research and Innovation to launch EXPOSIM. EXPOSIM will build a solid evidence base on the impact of environmental and occupational stressors like chemicals, air pollution, noise and aeroallergens on immune-mediated diseases (IMDs) throughout one's lifetime. Through the development of policy recommendations, training tools and awareness materials, EXPOSIM aims to provide necessary support to its stakeholders— patients, highly-exposed workers, researchers, policymakers and all EU citizens. The project, led by KU Leuven, is set to start on January 1st, 2025, with the overarching goal of accelerating the transition towards a health-promoting environment for all European citizens.

A Growing Threat for Immune Health – A Threat to the Health of Millions

Imagine a world where every other person is affected by a chronic disease. Sounds like a scary future, doesn't it? The World Health Organization (WHO) predicts that the incidences of global “asthma and allergy epidemic” will increase unless strategies for effective primary prevention are identified and implemented, or we alter the natural course of the disease (therapeutic intervention). It all starts with a simple statistic – the current prevalence of autoimmune diseases is 20.3% in women, while it's only 11.6% in men. Workers who are exposed to particulates and solvents are also indicated as an important risk group. In Europe, IMDs are among the most common non-communicable diseases (NCDs) in children, affecting 10-25% of the population. These conditions have a huge impact on individuals and society as a whole.

According to the WHO, IMDs are influenced by both intrinsic (e.g., genetics, hormones) and extrinsic (e.g. pollution, living environment, social interactions) factors during the process of the onset, development, and progression of diseases, with the environmental contribution exceeding 50% and being as high as 95% for some autoimmune diseases. How these environmental stressors might affect health is one of the many questions the EXPOSIM project aims to answer.

From Stressors to Solutions: The Innovations of EXPOSIM

Through extensive studies, EXPOSIM will provide a deeper understanding of how combined environmental stressors – such as air pollution, noise, and hazardous waste – impact our immune health. From pregnancy to adulthood, EXPOSIM will investigate how these stressors affect our bodies and potentially contribute to immune-mediated diseases (IMDs). By identifying the biological pathways and molecular mechanisms involved, EXPOSIM will uncover the complex relationship between our environment and our health. But it's not just about understanding the problem – EXPOSIM is also focused on finding solutions. The project will showcase the effectiveness of exposure-reducing and health-promoting interventions, with a special emphasis on vulnerable and highly exposed individuals (mother-child population, workers at risk, etc.). This valuable knowledge will then be used to make policy recommendations and inform decision-support tools. EXPOSIM also recognises the importance of collaboration and engagement. By bringing together scientists, policymakers, healthcare professionals and citizens, the project aims to co-create health-promoting actions, education and training and build a user-friendly toolbox to be employed on regional, national and EU levels.

5 
years

9 
partners

7 
countries

8.3 
million euro

Joining Forces for a Healthier Future

EXPOSIM has ambitious objectives and to achieve them, it brings together a consortium of nine European partners with diverse expertise in exposome research. The consortium is geographically balanced and experienced, with members involved in projects such as EXIMIOUS, EPHOR, EHEN, PARC and METEOR. This interdisciplinary team includes experts in epidemiology, immunology, omics, data analytics, health economics, and social sciences and humanities. Through this collaboration, EXPOSIM aims to contribute to a better understanding of environmental factors on human health and contribute to the overall well-being of European citizens.

- Katholieke Universiteit Leuven, BE
- Folkehelseinstituttet, NO
- Aarhus Universitet, DK
- Universiteit Hasselt, BE
- Universidade Nova de Lisboa, PT
- Det Nationale Forskningscenter for Arbejdsmiljø, DK
- Fundacio Hospital Universitari Vall d'Hebron - Institut de Recerca, ES
- Biogenity ApS, DK
- Centralny Instytut Ochrony Pracy - Państwowy Instytut Badawczy, PL
- accelopment Schweiz AG, CH



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