

NEUROSOME is a European integrated training network which investigates the causal associations among genetic predisposition, cumulative exposure to multiple environmental chemicals of children and neurodevelopmental disorders. The project brings together beyond- the-state-of-the-art advances in human biomonitoring and systems biology, exposure monitoring and toxicological testing technologies and advanced tools for computational analyses of the exposure-to-health effect continuum according to the exposome paradigm. The NEUROSOME methodology will be applied in population studies across different exposure settings to neurotoxicants (metals and persistent organics) in Europe. This will help us understand how environmental stressors lead to or exacerbate neurodevelopmental disorders. New standards for human biomonitoring data interpretation in conjunction with environmental and exposure information will be developed for ready use in chemical mixture risk assessment.

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NEUROSOME places particular emphasis on the training of young researchers providing support for 14 PhD students in all. Two of these will work at IUSS Pavia. NEUROSOME seeks to train the next generation of exposome scientists able to tackle the global challenges associated with the impact on human health due to environmental exposure. Great emphasis is placed on training PhD students through collaborative exchanges and practical courses. The ultimate goal is to produce a new generation of exposome researchers, trained in academia, applied research and industry, with transdisciplinary skills (environmental end exposure modelling, human biomonitoring, -omics technologies, high dimensional bioinformatics and environmental epidemiology,) and understanding of fundamental science and its direct application to environmental health challenges.