Nina Iszatt (PhD)

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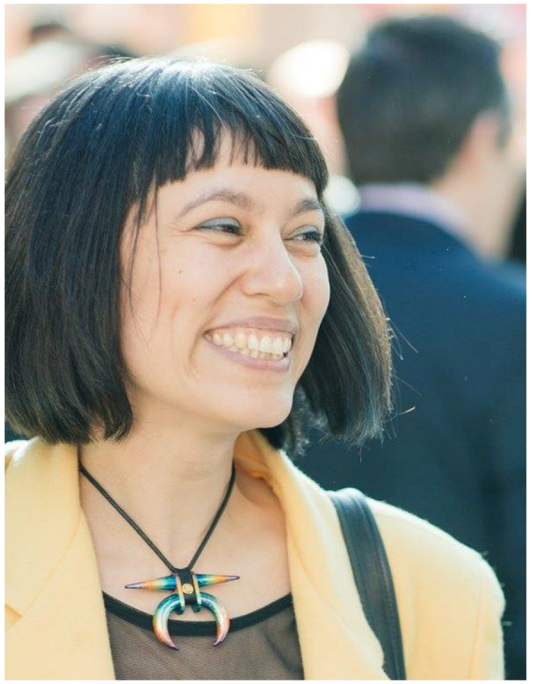

Nina Iszatt is an environmental epidemiologist at the Norwegian Institute of Public Health. Her research focuses on the role of early life exposure to environmental chemicals in the development of adverse reproductive and child health outcomes, and the gut microbiome as both independent predictor and mediator. She is PI of the NON-PROTECTED project on perfluorinated toxicants, the gut microbiome, and immune response in children. She has an interdisciplinary background, first receiving a BSc in Psychology from Goldsmiths' College, University of London. From 1999-2004, she was based in the Philippines as a political and social scientist, working across a range of international development issues including participatory governance and inequitable access to land. Witnessing first-hand the complex and intersecting problems of pesticide-exposed communities, she returned to study at Imperial College London where she earned her MSc in Environmental Technology and then PhD in Environmental and Reproductive Epidemiology in 2011.

The microbiome: where environmental pollutants meet you

Our gut microbiome is composed of trillions of bacteria, viruses, and fungi, a complex community of microorganisms residing in the digestive tract. This internal ecology has co-evolved with humans and converts environmental signals into signalling metabolites to communicate with the host – you. Research suggests that the gut microbiome has a critical role in developmental programming, and early disruption of microbial succession has long-term health consequences. Environmental pollutants are a present-day phenomenon and our microbiomes are bombarded by these new and sometimes toxic stimuli. In the first birth cohort of its kind, the Norwegian Microbiota Cohort, environmental toxicants including persistent organic pollutants and arsenic were measured in breastmilk and associated with differences in composition and function infant gut microbiome. Such findings provide evidence for the gut microbiome in mediating the effects of toxic exposure, but also has exciting potential for exposure reduction.