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# Interaction between environmental chemicals and toxicants and the human microbiome

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Background: Sources of exposure and body burden to various environmental chemicals and toxicants have been reported for different age-groups and populations. It is well-known that many of the persistent as well as non-persistent chemicals might have detrimental impact on our health. The chemicals and environmental compounds – with many showing ubiquitous exposure - may not only affect our immune system and various health outcomes directly but may also influence our health indirectly by modifying the microbiome.

Significance: With the new era of microbiome research made available through advanced high-throughput sequencing methods, we now have the possibility to study how these environmental chemicals affect the bacterial composition in our body. There is also growing evidence that the microbiome may metabolize environmental chemicals. Thus, it is likely that the interaction between chemical exposure and microbiome can influence health outcomes, and this should be taken into consideration in risk assessment.

Content: This symposium will cover some of the most important environmental exposures that are known to impact human health; air pollution, tobacco compounds, antibacterial chemicals, persistent organic compounds and toxicants. This symposium will provide insight into how these compounds affect the composition of the microbiome; mainly human microbiome, but also with contribution from experimental models.