

## **SAFE AND SUSTAINABLE FOOD PACKAGING: UNDERSTANDING THE MICRO- AND NANOPLASTICS CHALLENGE**

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### **INTRODUCTION**

Food packaging plays a critical part in modern food supply. It enables (long-term) food storage, transportation, marketing and, in some cases, also preparation. As such, food packaging, and especially plastics food packaging, has become an enabler of today's food systems. But plastic food packaging, under normal use conditions, is a known source of micro- and nanoplastics (MNPs) exposure. Other sources of MNPs in food have also been found, such as processing equipment or environmental pollution.

### **METHODOLOGY**

As humans ingest MNPs with food, there is an urgent need to better characterise the types of MNPs in foodstuffs and identify the main exposure sources. Further, the effects of this chronic exposure to MNPs on human health are to date still very poorly characterised. The AURORA research project is an EU Horizon 2020-funded activity that focuses on the impacts of MNPs on early life in humans (pre and postnatal). Understanding how MNPs can affect human health and getting a better grip on the most relevant (oral) exposure sources is critical for making policy recommendations with regards to preventing potential harm from MNPs in the long term. This is especially relevant in the context of necessary changes for achieving more sustainable food systems, where packaging, including packaging made of plastics, plays a critical role.

### **RESULTS**

In this presentation, we focus on MNPs as a novel type of food contaminant and share first results from AURORA MNP exposure assessment from a dietary intervention study.

## DISCUSSION

We also discuss development of novel methods for detecting nanoplastics in human blood samples, which will allow for population-wide exposure assessments in mother-child cohort studies.