

## Researching early-life health impacts of micro- and nanoplastic

### AIM

The scale of micro- and nanoplastic (MNP) pollution is becoming increasingly clear yet little is known about how this pollution impacts health. The AURORA project is developing an actionable European roadmap for early-life health risk assessment of MNPs.

### QUICK FACTS

#### PROJECT NAME

Actionable eUropean ROadmap for early-life health Risk Assessment of micro- and nanoplastics (AURORA)

#### FOCUS

Early-life human health impacts from exposure to micro- and nanoplastics (MNPs)

#### FUNDING

€5.9 million provided by the European Union under the Horizon 2020 research and innovation [program](#)

#### RESEARCH CLUSTER

AURORA is part of [CUSP](#) – the European research cluster to understand the health impacts of MNPs, including five projects

#### TIMELINE

April 2021 – March 2026

### ORGANIZATION OF WORK

Research, communication, and project management tasks within AURORA are organized across seven work packages.

### AURORA'S 7 OBJECTIVES

#### OBJECTIVE 1

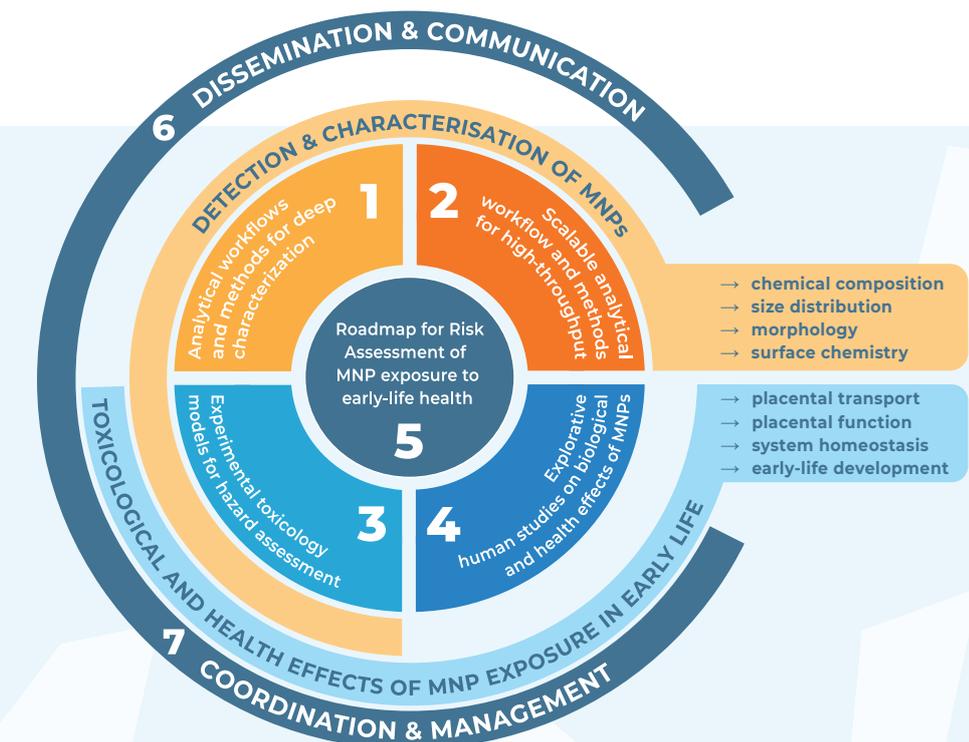
develop new, low-throughput METHODS for in- depth characterization of MNPs in complex matrices (e.g. human tissues, foodstuffs)

#### OBJECTIVE 2

innovate high-throughput METHODS for use in large-scale health studies of diverse human populations

#### OBJECTIVE 3

assess health EFFECTS in placenta and the developing fetus



#### OBJECTIVE 4

EPIDEMIOLOGY – study effects of MNPs exposure in human populations (including two birth cohort studies)

#### OBJECTIVE 5

deliver an actionable roadmap for RISK ASSESSMENT by integrating results from the other objectives

#### OBJECTIVE 6

COMMUNICATE research findings, make results actionable to stakeholders, support stakeholder dialogue

#### OBJECTIVE 7

MANAGE the project, coordinate with other CUSP research cluster projects

## WHY IS AURORA NEEDED?

AURORA is needed because we know little about how MNPs impact pregnancy and development in early life - vulnerable periods that are also critical for health later in life. It has been shown that MNPs are likely to cross the placental barrier *in vitro* and *in vivo*, underlying the urgent need for additional research to understand the impact of MNPs on reproductive and early-life health.

## HOW WILL AURORA HELP?

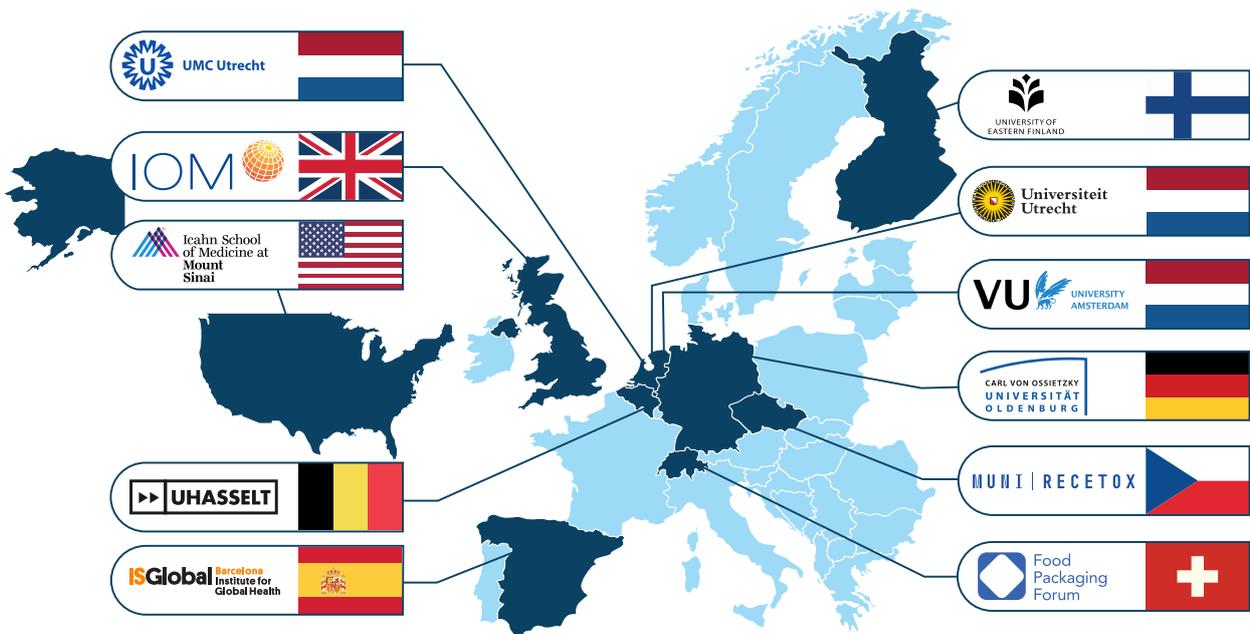
AURORA will help to better understand these impacts by significantly enhancing exposure assessment capabilities for measuring MNPs and MNP-associated chemicals (e.g. additives) in tissues relevant for biomonitoring and for assessing health effects in early life (e.g. placenta, fetal tissue, blood).

## WHAT MAKES AURORA UNIQUE?

AURORA will take a unique approach by using in-depth characterization together with scalable technologies to advance methods for both detailed and large-scale toxicological, exposure assessment, and epidemiological studies. This will be combined with a novel tiered-testing approach and epidemiological investigations to provide the first extensive evaluation of maternal and fetal MNP exposures and health perturbations, including placental function, immune-inflammatory responses, oxidative stress, endocrine disruption, and child development.

## PARTNER ORGANIZATIONS

AURORA is a consortium of 11 institutes across 9 countries and is coordinated by UMC Utrecht in the Netherlands.



## LEARN MORE AND FOLLOW OUR PROGRESS

Learn more about AURORA, the team members, and our latest research progress. Visit our website, follow our social media channels, and subscribe to our newsletter:

- [AuroraResearch.eu](http://AuroraResearch.eu)
- [@AuroraProjectEU](https://twitter.com/AuroraProjectEU)
- [linkedin.com/company/AuroraResearch](https://linkedin.com/company/AuroraResearch)
- [AuroraResearch.eu/newsletter](http://AuroraResearch.eu/newsletter)

## QUESTIONS? COMMENTS?

Do you have questions about AURORA? Want to engage with us or inquire about an opportunity to collaborate? Then send us an email or get in touch directly with a responsible team member!

- [info@AuroraResearch.eu](mailto:info@AuroraResearch.eu)
- [AuroraResearch.eu/about/team](http://AuroraResearch.eu/about/team)

