

Project ideas & goals:

- Key issue in understanding the fate and potential effects of microplastics is their dynamic nature
- Dams and reservoirs constitute important parts of sedimentation of microplastics
- Identifying and characterising microplastic in water and sediment
- Understanding biofilm formation on plastic and the sedimentation of these particles
- Recording the uptake and effects of microplastics by individuals and entire communities

TP1: Distribution

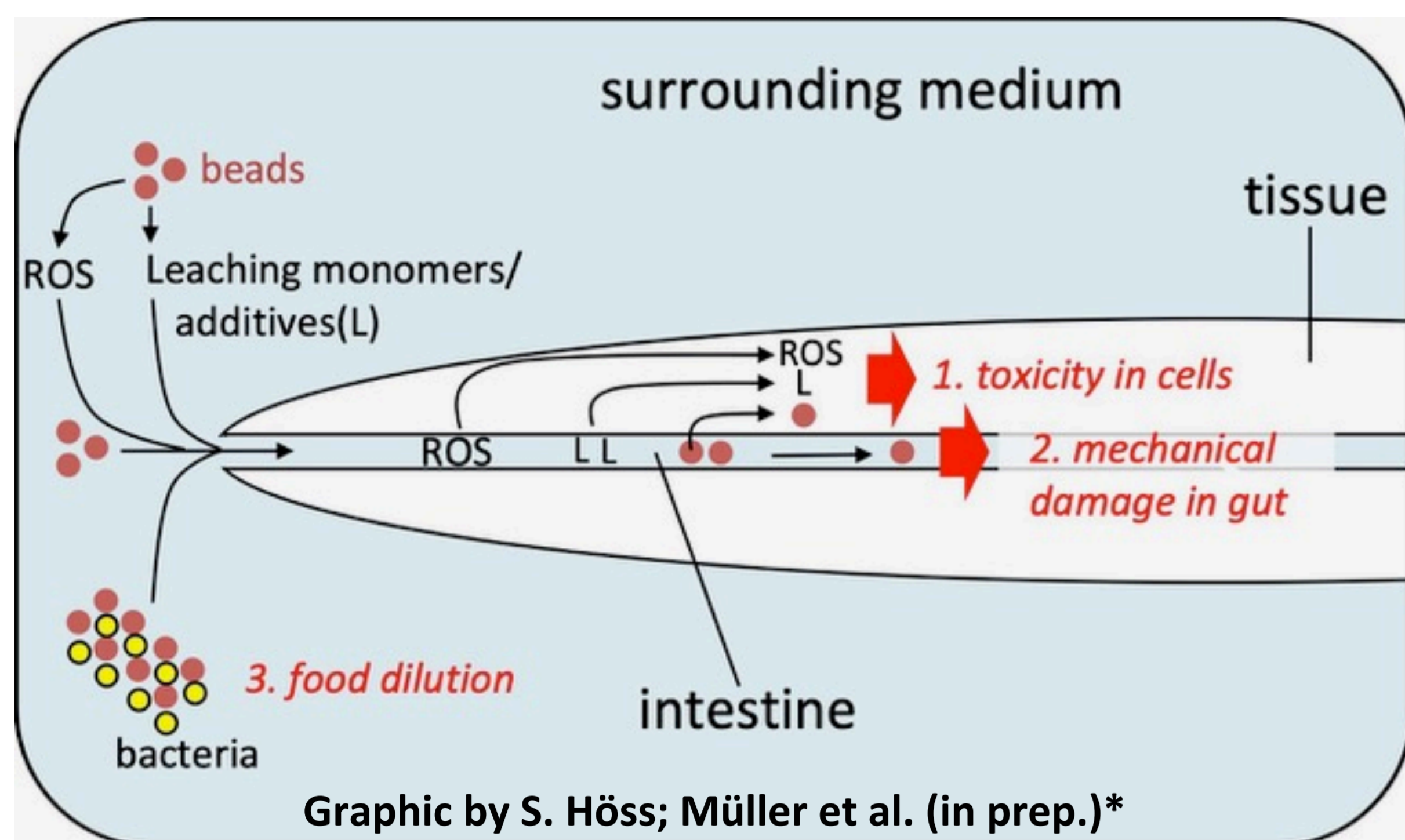
TP2: Biofilm

TP3: Effects

TP4: Society

ecossa Contact: **Sebastian Höss** (Ecosa): hoess@ecossa.de; **Marie-Theres Müller** (Universität Bielefeld): ma.mueller@uni-bielefeld.de

Universität Bielefeld



Background:

- Nematodes are key players in benthic food webs
- Nematodes are able to take up microplastic from the surrounding medium

Question:

- Are microplastic particles toxic to nematodes?
- Which pathways are responsible for toxicity?

Fig. 1

Polystyrene (PS) concentration

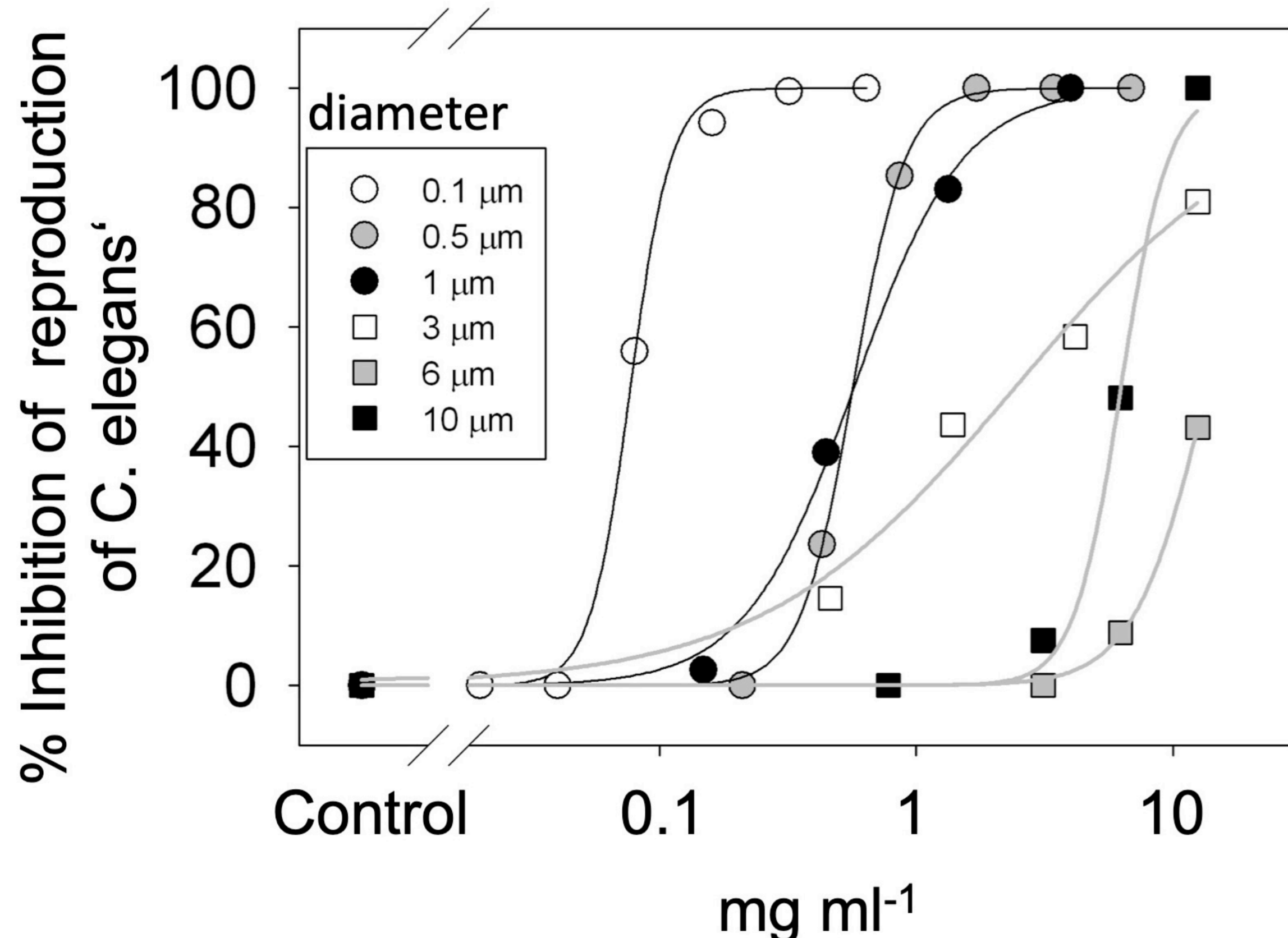


Fig. 2

Total surface of beads

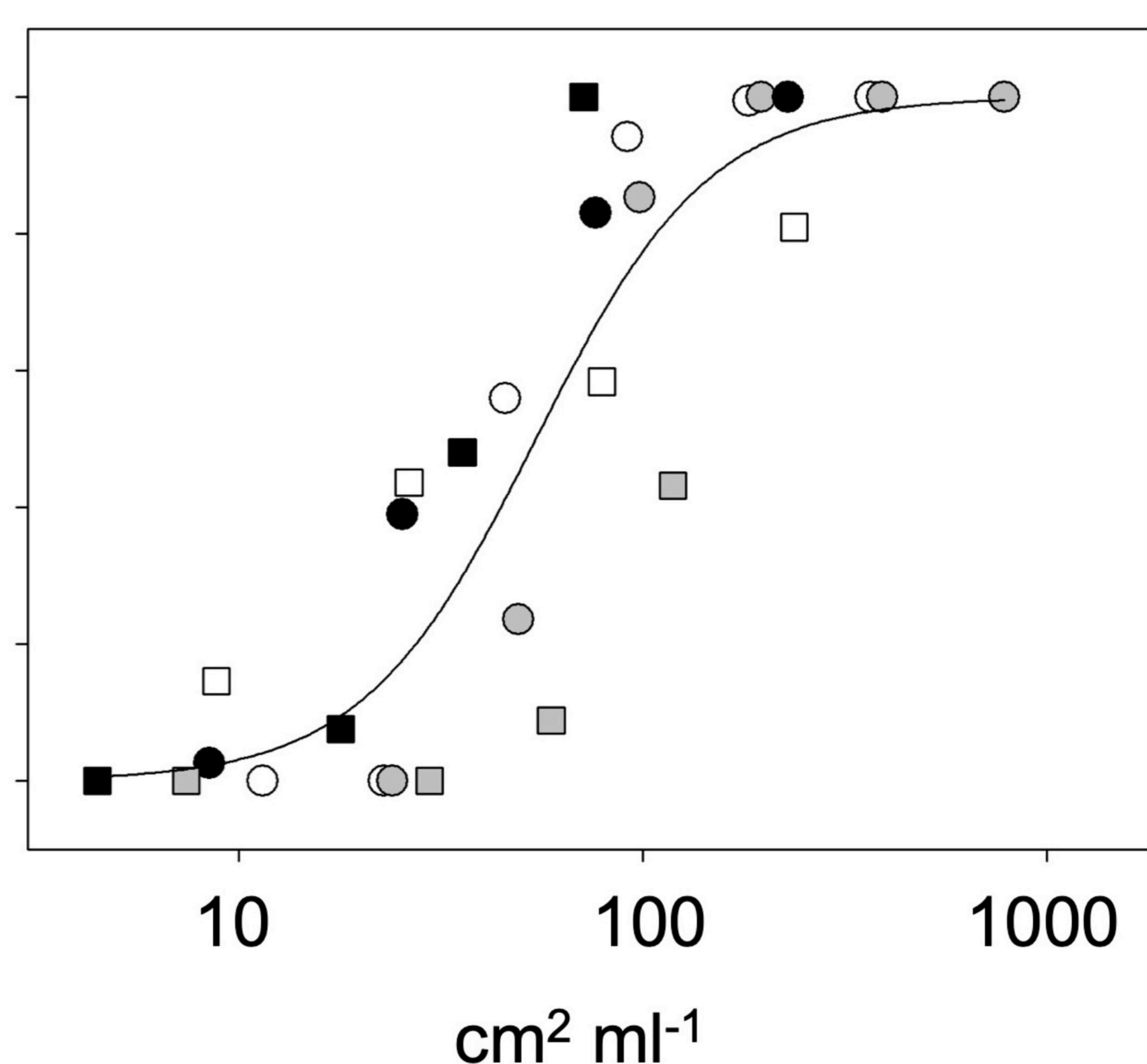
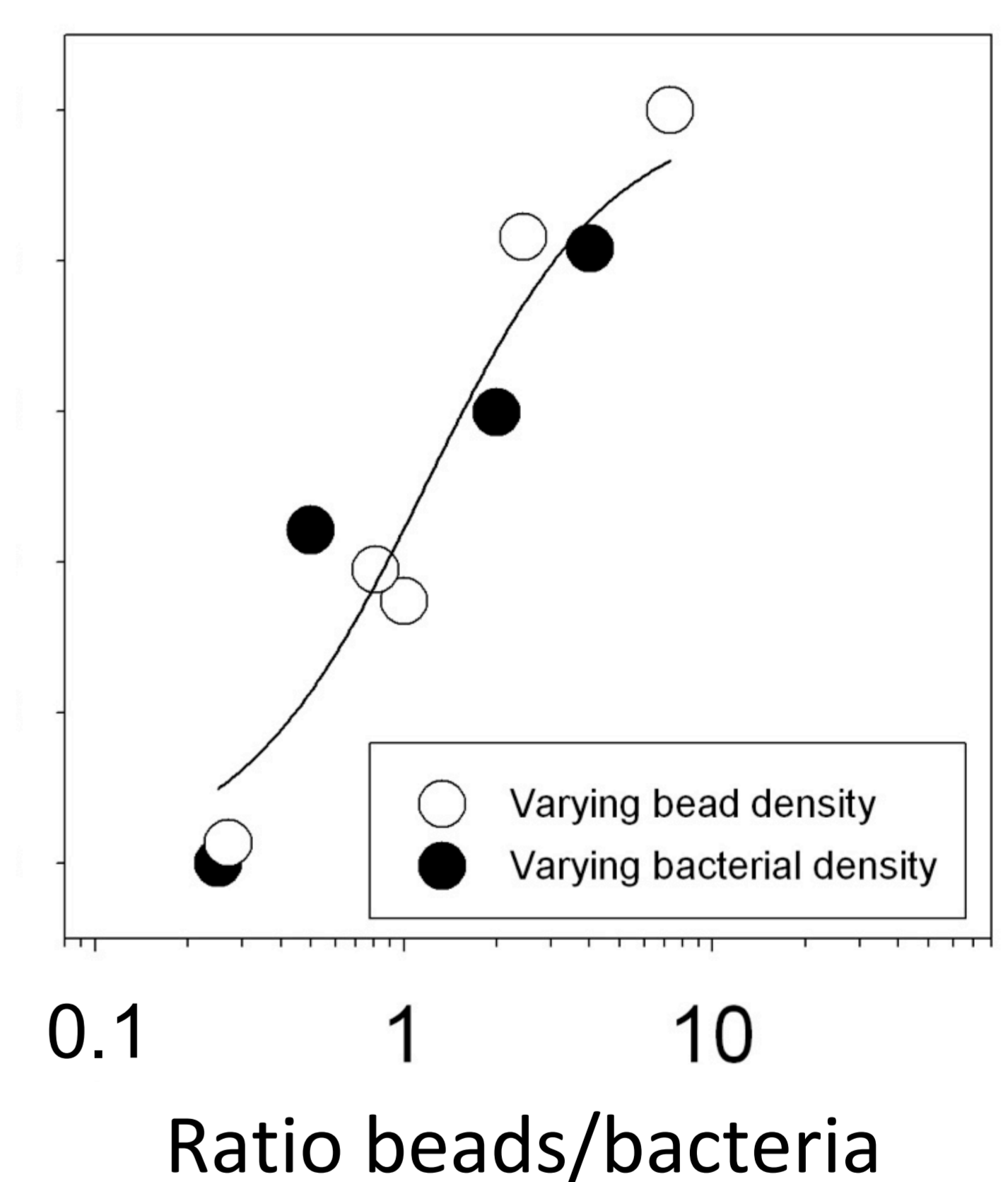


Fig. 3

Mixtures 1 μm beads + food bacteria



- Toxic effects observed in a concentration- and size depending manner (Fig. 1)
- Toxicity related to total surface area of microplastic spheres applied (Fig. 2)
- Observed effects might be caused by reduced food availability (Fig. 3)

*Müller, M; Füser, H.; Traunspurger, W.; Höss, S.: Surface related toxicity of polystyrene beads to nematodes and the role of food availability (in prep)

Kontakt Projektkoordination:

Dr. Katrin Wendt-Potthoff
UFZ Magdeburg
Brückstraße 3a
39114 Magdeburg

T.: +49 301 810 9810
E-Mail: katrin.wendt-potthoff@ufz.de
Website: <https://www.ufz.de>
Projektwebsite: <https://www.uni-muenster.de/Mikroplatas/>

GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung

Eine Initiative des Bundesministeriums
für Bildung und Forschung

Plastik
in der Umwelt

Quellen • Senken • Lösungsansätze