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NAMs: investigating the Neurological Effects of Micro- and Nanoplastics

Abstract:

The pervasive presence of micro- and nanoplastics in the environment has raised growing concerns regarding their potential impact on human health, particularly at the neurological level. The study aims to conduct a comprehensive investigation into the effects of these plastic particles on the nervous system. By employing a multidisciplinary approach that integrates toxicological, molecular, and behavioural analyses, the study seeks to elucidate the mechanisms by which micro- and nanoplastics may influence neurodevelopment, synaptic function, and neural integrity. NAMs will be identified, evaluated and if suitable used to assess the accumulation and distribution of these particles within neural tissues, as well as their potential to induce neuroinflammation, oxidative stress, and cognitive alterations. The findings are expected to contribute valuable insights into the risks associated with environmental plastic contamination and inform future strategies for public health protection and environmental management.

Biography

Luca Campisi is the Owner and Managing Director of Flashtox S.r.l., Italy. He leads the Toxicology and Food/Nutritional Toxicology Unit, as well as the Regulatory and Food Science Unit within the organization. Campisi's work focuses on food safety, applied toxicology, and chemical risk assessment, ensuring regulatory compliance and the protection of human health. In addition to his leadership role at Flashtox, he collaborates academically with the University of Pisa and the University of Chieti-Pescara, contributing to research and education in the fields of toxicology and food science.