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Presents

When innovative science intersects with the needs of public health and communities

By

Eliane El Hayek

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UNM Dept. of Physics, Astronomy, & Interdisciplinary Research, 210 Yale Blvd NE Rm 1100

And ZOOM
https://unm.zoom.us/j/94918382377

Meeting ID: 949 1838 2377

Free and open to the public
Meet & Greet with refreshments at 5 PM

Dr. Eliane El Hayek is a Research Assistant Professor of Pharmaceutical Sciences at the University of New Mexico College of Pharmacy. Her research focuses on understanding the biochemical interactions of environmentally relevant toxicants, such as micro(nano)plastics and metals, and the critical physiological mechanisms involved in their toxicity and health risks. Dr. El Hayek earned a BS and MS in Biochemistry, then a dual Ph.D. in Environmental Science in 2015 from Paul Sabatier University in France and Lebanese University under an externship from Agence Universitaire de la Francophonie. Her multidisciplinary background in biochemistry, toxicology, environmental science, engineering, spectroscopy, and polymer chemistry enables her laboratory to lead projects integrating spectroscopy and biochemistry. This approach provides unique insights into the connections between environmental exposures, biochemical processes, and health outcomes. Her collaborations have developed advanced methods for assessing, isolating, and quantifying micro(nano)plastics in human and environmental matrices, thus advancing the scientific understanding of microplastics and nanoplastics.

ABSTRACT: Plastic waste contamination and the challenges associated with bioaccumulation present significant risks to human health. Since their introduction in the 1950s, plastics have pervaded ecosystems globally. Our research adopts a novel approach to addressing the issue of micro(nano)plastics (MNPs) pollution by examining it through a community-focused lens while emphasizing the importance of ecosystems. Our preliminary findings concerning human tissues indicate that these particles accumulate more significantly in the brain than in the liver or kidneys. This finding raises concerns regarding waste management in the brain and the possible toxic effects on central nervous system (CNS) function. Our team is developing advanced microscopy and spectroscopy techniques to enhance the characterization of real-world nanoplastics and to better understand their bioaccumulation and health effects.