

“Distinguishing realistic environmental risks of engineered nanomaterials: separating evidence from speculation”

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Abstract: Speculation about the unique properties of engineered nanoscale materials (ENMs) (objects with at least one dimension 1-100 nm) and their potential to cause novel toxicities in organisms upon release into the environment was highlighted over ten years ago (e.g. Colvin 2003) and has persisted in the literature despite relatively little evidence that such effects occur. Recently, nanotoxicology research has been strongly criticized including the allegation that only a small fraction of the studies completed meet criteria for interpreting toxicity in a manner that is useful for assessment of risk. As such, regulators and risk assessors have little scientific evidence to base the urgent need to make decisions, and at the same time the nanotechnology industry is hindered by uncertainty regarding the potential for regulations to restrict development based on unsupported evidence. This presentation will describe the evolution of ecotoxicity testing of ENMs, some of the mis-interpretations that have occurred and continue to persist in the literature, and some promising developments in our understanding of ENM ecotoxicology.



Biography: Dr. Theodore (Ted) Henry joined the School of Life Sciences at Heriot-Watt University on the global platform for research leaders in 2013. He received a Bachelor of Arts (1992) in Aquatic Biology from the University of California Santa Barbara, and subsequently worked as a fisheries extension/rural community development agent in the Akebou region of Togo West Africa as a U.S. Peace Corps Volunteer (1992-1994). He received a Master of Science (1998) from the Department of Fisheries and Allied Aquacultures at Auburn University (AL) with thesis research on the aquatic toxicity of acid mine drainage mixing zones in warmwater streams. His doctoral research in the Fish Disease Laboratory at Auburn University investigated fish pathology associated with exposure to electric fields. He investigated the ecotoxicology of pharmaceutical substances as a

postdoctoral research associate at the University of Georgia, Athens, GA; and his first academic position was at The University of Tennessee, Knoxville, TN. In 2008, he went to the UK as a Research Council of the UK Academic Fellow leading to a Readership appointment at the University of Plymouth.

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