



iJOBS Workshop: Consulting
Wednesday January 8, 2020
4:30-6:30pm
Piscataway



Amanda Pentecost, Ph.D.
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Dr. Pentecost's primary expertise focuses on nanomaterials for biomedical applications. She has worked extensively to evaluate the therapeutic potential of several carbon nanomaterials as well as metal carbides. Her current interests include biomaterial-tissue interactions, biocompatibility, and the foreign body response to biomaterials. She has extensive experience with numerous materials and in vitro and in vivo biological characterization techniques. Prior to joining Exponent, she concurrently completed both a Ph.D. in Materials Science and Engineering (2018) and a M.S. in Biomedical Engineering (2016) at Drexel University. Since her undergraduate tenure as a Materials Science and Engineering student at Drexel University, her research focused on designing and utilizing diamond nanoparticles as drug delivery vehicles for several therapeutic applications, including preventing biofilm formation on implants, treating brain cancer, and treating chronic inflammatory diseases. As part of her thesis research, she was awarded Whitaker International and David L. Boren fellowships in order to travel to and work at the Center for Theragnosis at the Korea Institute of Science and Technology (KIST) for one year. Here, she collaborated with KIST researchers to determine the biodistribution and therapeutic efficacy of modified diamond nanoparticles in a mouse model of rheumatoid arthritis. She was also involved as a technical editor for ISO TC 229 (Nanotechnologies), as is interested in regulatory affairs governing nanomaterials for biomedical applications.



Joy McGrath, MS
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Ms. McGrath is an environmental scientist with over 20 years of

experience in risk assessment, specializing in bioavailability of sediment-associated contaminants to the aquatic community, water and sediment criteria development and fate of contaminants through wastewater treatment processes. Ms. McGrath has participated in developing and reviewing existing criteria for non-polar organics with a focus on petroleum hydrocarbons, metals, and siloxanes for industrial and governmental clients. She was a co-author on the original research for the target lipid model (TLM), a framework for deriving water and sediment criteria for mixtures of non-polar chemicals that act via narcosis, such as hydrocarbons. The TLM has been adopted by the U.S. EPA and other international environmental agencies for use in deriving sediment criteria for the protection of benthic invertebrates from exposure to mixtures of polycyclic aromatic hydrocarbons. She was also involved in the development of PETROTOX which utilizes the TLM framework for predicting the toxicity of various petroleum products that is being implemented under REACH guidance. On the wastewater side, she has managed numerous projects evaluating the fate of emerging chemicals of concern from the pharmaceutical, food and beverage and chemical industries through wastewater treatment processes. She has designed numerous field sampling programs to determine fate of pesticides through wastewater treatment facilities for use in risk assessment during the registration/re-registration process.