**Project Manager Qualifications and Organization Description**

**Ardeshir Ebtehaj,** Assistant Professor

Department of Civil, Environmental, and Geo- Engineering, University of Minnesota

B.S., Civil Engineering, 1999, Iran University of Science and Technology, Tehran, Iran.

M.Sc., Environmental Engineering, 2001, Iran University of Science and Technology, Tehran, Iran.

M.Sc., Mathematics, 2012, University of Minnesota, Twin Cities, MN, United States.

Ph.D., Hydrology, 2013, University of Minnesota, Twin Cities, MN, United States.

Dr. Ebtehaj will be responsible will be responsible for overall project coordination and supervision of the study and development of the analytical models that relate the MP levels to watershed attributes and remote sensing component of the project. He has been studying remote sensing of environment and water systems for ten years. As part of these studies, he has determined the global distribution of precipitation, soil moisture and flood inundation using NASA’s satellites. He has published over twenty peer-reviewed papers on remote sensing of the Environment and co-authored a book chapter on remote sensing of environmental variables and fluxes in the handbook of environmental engineering in 2019. Dr. Ebtehaj is an associate editor of the *Journal of Hydrometeorology*, affiliate member of the University of Minnesota Institute on the Environment, and a member of the graduate study committee in Water Resources Science at the University of Minnesota. He was a NASA’s Earth and Space Science Fellow in 2014 and won a NASA’s new investigator (Early Career) award in 2018 for his contribution in remote sensing sciences.

**Qualifications of the Collaborators**

**William A. Arnold,** Distinguished McKnight University and Joseph T. and Rose S. Ling Professor and Associate Head, Department of Civil, Environmental, and Geo- Engineering, University of Minnesota

B.S., Chemical Engineering, 1994, Massachusetts Institute of Technology, Cambridge, MA.

M.S., Chemical Engineering, 1995, Yale University, New Haven, CT.

Ph.D., Environmental Engineering, 1999, The Johns Hopkins University, Baltimore, MD.

Dr. William Arnold will be responsible for overall project supervision for analyzing microplastic contaminants, field and laboratory samplings and development of analytical methods and protocols. He has been studying the fate of pharmaceutical and pesticide compounds in aquatic environments for sixteen years. As part of these studies, he has determined the transformation rates and identified reaction products of numerous compounds. Recent work has focused on the hydrolysis and photolysis of neonicotinoid insecticides. He has published over twenty peer-reviewed papers on pesticide and pharmaceutical fate since 2003, and he is the co-author of a textbook on water chemistry published in 2011. Dr. Arnold is a Resident Fellow of the University of Minnesota Institute on the Environment, an Associate Fellow of the Minnesota Supercomputing Institute, and a member of the graduate faculty in Water Resources Science. He won the *Arcadis/Association of Environmental Engineering and Science Professors Frontier in Research Award* in 2012 and the University of Minnesota College of Science and Engineering *George W. Taylor Award* *for Distinguished Research* in 2011.

**Miki Hondzo,** James L. Record Professor

Department of Civil, Environmental, and Geo- Engineering, University of Minnesota

B.S., Civil Engineering, 1983, University of Sarajevo, Bosnia and Hercegovina

M.Sc., Surface Water Hydrology, 1988, Free University of Brussels, Belgium

Ph.D., Civil Engineering, 1992, University of Minnesota, Twin Cities, MN, United States

Dr. Hondzo will be responsible for development and guidance of the detection of microplastics under field and outdoor laboratory conditions using the proposed drone technology. He has been studding ecological fluid mechanics, and water quality and transport processes in lakes, rivers, and watersheds in the past 20 years. Dr. Hondzo is an Associate Editor of the journal of Environmental Fluid Mechanics.

**Organization Description**

The University of Minnesota is one of the largest, most comprehensive, and most prestigious public universities in the United States (http://twin-cities.umn.edu/about-us). The laboratories and offices of the PI contain the necessary fixed and moveable equipment and facilities needed for the proposed studies.