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Meeting ID: 973 5159 8070 Password: 8n157g **1:50pm - 2:45pm**

Dr. Andrew Tirpak, PhD Postdoctoral Scholar Food, Agricultural and Biological Engineering THE OHIO STATE UNIVERSITY

Green Infrastructure Research in Ohio: Permeable Pavements & Commercial GI



Abstract: Urban stormwater runoff is one of the leading causes of aquatic habitat degradation in the United States and in cities throughout the world. As urbanization intensifies, impervious surfaces such as roads, parking areas, and rooftops alter the hydrology and water quality of stormwater runoff, resulting in increased flooding, combined sewer overflow events, and water quality impairments in receiving waters. In response, cities worldwide are implementing stormwater control measures such as bioretention and permeable pavements to mitigate the detrimental effects of urban runoff. This presentation will focus on the performance of green infrastructure installations in northern and central Ohio. While the benefits of bioretention and permeable pavements have been the focus of numerous, their performance in cold climates and hydrologically taxing settings is not well documented. Findings from two studies conducted to address these research gaps will be presented, including a performance assessment of permeable pavement installed atop clay soils on the shore of Lake Erie and results from a paired watershed study of green infrastructure retrofits in a commercial parking lot in Reynoldsburg, Ohio.

Andrew is a Postdoctoral Scholar in the Department of Food, Agricultural, and Biological Engineering at the Ohio State University. His research with the OSU Stormwater Management Program has focused on quantifying and modeling the impact green infrastructure practices at the site and watershed scale, mitigating construction site runoff, and investigating methodologies to improve the performance of stormwater control measures. He received his PhD in Civil and Environmental Engineering from the University of Tennessee in 2018, where he conducted research on the role of trees in green stormwater infrastructure practices and means to enhance the resilience of urban stormwater controls to climate change.