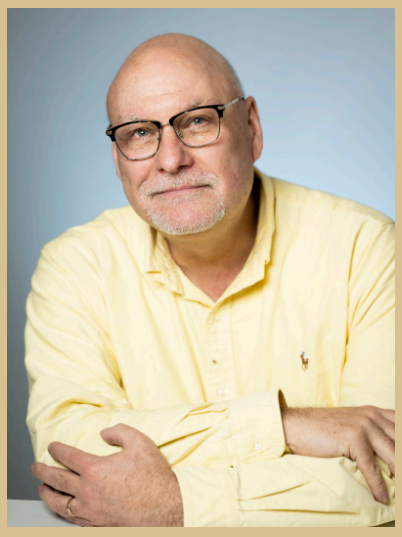
THE DEPT OF FORESTRY & NATURAL RESOURCES PRESENTS

SPRING 2024 SEMINAR SERIES

WEDNESDAY FEBRUARY 7, 2024
WSLR 116 2:00PM - 3:00PM

JOIN US FOR A LECTURE AND CONVERSATION WITH

DR. BRYAN PIJANOWSKI



Dr. Bryan Pijanowski is the Director of the Center for Global Soundscapes and is Professor of Soundscape Ecology in the Department of Forestry and Natural Resources.

This series aims to stimulate discussion and create opportunities for collaborations. Everyone is welcome to attend.

Soundscape Analytics: Using Big Data and AI for Biodiversity Assessments

Sounds are all around us. Indeed, there are no truly silent places on Earth. Every sound is unique as well. In fact, all sounds of a place are like a fingerprint of that location indicating what activities exist there. All of the sounds of a landscape, seascape or cityscape, are called a soundscape. Soundscapes are composed of sounds that are from biological (i.e., the biophony), geophysical (i.e., the geophony) and anthropogenic (i.e., the anthrophony) sources. Of particular importance is the biophony – the integration of all animal acoustic signals in a landscape. Indeed, biophonies are now being used as functional indicators of biodiversity. This presentation will summarize the work that has occurred by my group over the last 15 years to conduct soundscape work to assess biodiversity trends in Earth's major biomes. A summary of the use of acoustic indices based on entropy and spectral complexity measures, acoustic feature space exploration, deep machine learning such as convolutional neural networks, and visualization tools such as false color spectrograms, will be made. I will show how we are integrating space-based and drone-based imagery to characterize habitat condition, diversity and structural complexity to understand landscape-soundscape relationships. Work in Borneo, East Africa, Central America, Patagonia, Mongolia, and Bangladesh, spanning tropical rainforests, grasslands, mangroves and taiga forests, will be covered. Video clips showcasing the beautiful remote study areas will be scattered through the talk along with a few stories about adventures of a "geeky" scientist working in Earth's wild spaces.

Located at 170 S University Street, West Lafayette, IN

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