

Biology Seminar

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University of Washington | Research Scientists/Engineers | School of Environmental and Forest Sciences
<https://cefs.uw.edu/programs/timber>

ArborTron, Arbor Harbor, and Beyond: An Arbor-centric framework for identifying species and their geographic origin to counter illegal logging

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Illegal logging and timber trade, valued at \$50-\$150B annually, is estimated to account for 30-50% of all internationally traded timber and to cost \$5B in lost revenue to governments, negatively impacting biodiversity, climate, and local communities.

The Lacey Act fosters forest legality by restricting importation of unlawfully harvested goods into the US. This act requires declaring the harvested species and its country of origin. In this seminar we share the science behind a framework founded on two tools that we developed, ArborTron and Arbor Harbor, which together help answer: What data and models confirm the veracity of the declared species and its geographic origin?

ArborTron is a machine vision based field deployable system to identify the species of woody taxa. Most individuals cannot identify the species of a living tree let alone a wooden object. The ArborTron empowers a lay person to classify the species of an object. This classification can be used to corroborate the species declared in the Lacey Act documentation.

Arbor Harbor is a reference system of data and models used to expose anomalies in Lacey Act declarations. For validating species origin, we use public data from multiple independent sources, and models involving species identification from satellite images and species distributions based on climate suitability.

While currently serving a specific role for the US government, this framework could be expanded by linking to additional, multi-domain information or groups of species to facilitate the exploration of biodiversity-related questions involving climate change, biological introductions, and other disturbances. From an applied perspective, making such community-level linkages might help governmental, NGO, and commercial entities strengthen policies that protect and enrich our world.

Seminar Speaker Host: Sam Wasser

