

Trees Intelligence network: agriculture and forest management using remote sensing

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26/5/2020, 12:00, via Zoom

<https://zoom.us/j/91204898327>

Forests and agricultural orchards are becoming increasingly susceptible to drought, insect outbreaks, and disease due to climate change. These have the potential to cause selective mortality, thereby inducing shifts in forest species composition, or effecting agricultural yield and productivity. Management of forest and agriculture systems are proactively undertaking targeted that could improve their resilience to further climate and anthropogenic alterations. However, to study the effect of these required a landscape-scale approach for developing sustainable management. Remote sensing applications (hyperspectral, multispectral, and LiDAR) integrated with innovative spatial artificial intelligence techniques could make fundamental discoveries for sustainable environmental management. The seminar aims to present innovative remote-sensing applications for agriculture and forest management. Three case studies will be presented including

(1) developing site-specific nitrogen management in a citrus orchard to minimize nitrogen pollution; (2) developing a multispectral approach for identifying invasive plant species based on flowering phenology characteristics; and (3) leaf to landscape approach to study forest responses to drought along a climate gradient.

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