

## Speaker:



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## Title:

Seeing through Forest

## Abstract:

With Airborne Optical Sectioning (AOS), we have introduced a synthetic aperture imaging technique that captures an unstructured light field with a camera drone. Color and thermal images recorded within the shape of a wide (possibly hundreds to thousands of square meters) synthetic aperture area above forest are combined computationally to remove occluders, such as trees and other vegetation. The outcome is a widely occlusion free view of the forest ground. AOS supports full 3D visualization but, in contrast to LiDAR, does not require depth reconstruction. It therefore supports real-time rates at low processing costs. A wide range of applications, such wildlife observation, search and rescue, archaeology, forestry, or harvest assessment have been investigated in the course of many field studies. In this talk, I will report on the achievements and the challenges of the AOS project -- focusing on our recent findings in autonomous people classification for SAR missions, which will soon appear in Nature Machine Intelligence.