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Short presentation

Martin Brandt received his PhD from the University of Bayreuth, Germany in 2014. He works as Assistant Professor at the University of Copenhagen since 2015. His major fields are remote sensing and physical Geography and his work concentrates on the monitoring of vegetation dynamics, with a special focus on West Africa and Southern China. Martin Brandt's research is breaking new ground, with 15 manuscripts published in Nature/Science journals between 2018 and 2021 (5 as first author). His recent work, published in Nature, was the first applying deep learning on hundreds of thousands of sub-metre satellite images to map billions of individual tree crowns in desert areas that were often assumed as free of any trees. In 2020, he received an ERC starting grant and an DFF Sapere Aude grant to study trees outside forests at global scale.

Employment

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Research outputs

Even low levels of tree cover improve dietary quality in West Africa

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High-resolution canopy height map in the Landes forest (France) based on GEDI, Sentinel-1, and Sentinel-2 data with a deep learning approach

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Scattered tree death contributes to substantial forest loss in California

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Sub-meter tree height mapping of California using aerial images and LiDAR-informed U-Net model

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Trees on smallholder farms and forest restoration are critical for Rwanda to achieve net zero emissions

Mugabowindekwe, M., Brandt, M., Mukuralinda, A., Ciais, P., Reiner, F., Kariryaa, A., Igel, C., Chave, J., Mertz, O., Hiernaux, P., Tong, X., Rwanyiziri, G., Gominski, D., Li, S., Liu, S., Gasangwa, I., Hategekimana, Y., Ndoli, A., Nduwamungu, J., Saatchi, S. & 1 others, Fensholt, Rasmus, 2024, In: Communications Earth & Environment. 5, 1, 10 p., 113.

Beyond tree cover: Characterizing southern China's forests using deep learning

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Deep learning enables image-based tree counting, crown segmentation and height prediction at national scale

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Mapping and characterising tree mortality in California at individual tree level using deep learning

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Mapping tree species diversity of temperate forests using multi-temporal Sentinel-1 and -2 imagery

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More than one quarter of Africa's tree cover is found outside areas previously classified as forest

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Large loss and rapid recovery of vegetation cover and aboveground biomass over forest areas in Australia during 2019–2020

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Large scale rocky desertification reversal in South China karst

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