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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

Associate Professor

Geography 2

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1 May 2017 → nu

Research outputs

MAPPING TREE MORTALITY IN CALIFORNIA FROM VERY HIGH RESOLUTION IMAGERY USING DEEP LEARNING

Cheng, Yan, Oehmcke, Stefan, Brandt, Martin Stefan, Das, A., Rosenthal, L., Saatchi, S., Wagner, F., Vrieling, A., Verbruggen, Wim, Beier, Claus & Horion, Stéphanie, 16 Jul 2023.

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

Li, Q., Yue, Y., Liu, Siyu, Brandt, Martin Stefan, Chen, Z., Tong, Xiaowei, Wang, K., Chang, J. & Fensholt, Rasmus, 2023, In: Remote Sensing in Ecology and Conservation. 9, 1, p. 17-32

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

Li, Sizhuo, Brandt, Martin Stefan, Fensholt, Rasmus, Kariryaa, Ankit, Igel, Christian, Gieseke, Fabian Cristian, Nord-Larsen, Thomas, Oehmcke, Stefan, Carlsen, Ask Holm, Junttila, S., Tong, Xiaoye, d'Aspremont, A. & Ciais, P., 2023, In: PNAS Nexus. 2, 4, 16 p., pgad076.

Deep learning for mapping water bodies in the Sahel

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Forest Plan - pilot project on mapping of forest resources

Nord-Larsen, Thomas, Tsatsakis, M., Li, Sizhuo, Avila, Linsey Marie, Brandt, Martin Stefan, Liu, Siyu, Morueta-Holme, Naia, Davison, Charles W. & Fensholt, Rasmus, 2023, Copenhagen: Department of Geosciences and Natural Resource Management, University of Copenhagen. 128 p. (IGN Report; No. March 2023).

Global increase in biomass carbon stock dominated by growth of northern young forests over past decade

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

Cheng, Yan, Oehmcke, Stefan, Brandt, Martin Stefan, Das, A., Rosenthal, L., Saatchi, S., Wagner, F., Verbruggen, Wim, Vrieling, A., Beier, Claus & Horion, Stéphanie, 2023. 1 p.

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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Recent decrease of the impact of tropical temperature on the carbon cycle linked to increased precipitation

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Siberian carbon sink reduced by forest disturbances

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The overlooked contribution of trees outside forests to tree cover and woody biomass across Europe

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The Carbon Sink Potential of Southern China After Two Decades of Afforestation

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Country-scale mapping of individual forest and non-forest trees and shrubs in Africa - the example of Rwanda

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Do afforestation projects increase core forests? Evidence from the Chinese Loess Plateau

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The forgotten land use class: Mapping of fallow fields across the Sahel using Sentinel-2

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Towards improved remote sensing based monitoring of dryland ecosystem functioning using sequential linear regression slopes (SeRGS)

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Major forest increase on the Loess Plateau, China (2001–2016)

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