He ZHANG

Email: hzhang41@hku.hk

Education:

- Ph.D Earth and Life Institute (ELI), Georges Lemaître Centre for Earth and Climate Research (TECLIM), Université catholique de Louvain, Belgium, 2022
- M.S. Institute of Soil and Water Conservation, Chinese Academy of Sciences, Northwest A&F University (NWSUAF), China, 2017
- B.S. Northwest A&F University (NWSUAF), China, 2014

Present academic positions held:

- 08/2022-Present Postdoc Fellow, University of Hong Kong

Previous relevant research work: He Zhang has amassed skills and interests in soil analysis, plant ecology and carbon cycle with several years of experience studying soil and water conservation. During the doctoral training, he focuses on using remote sensing (UAV-based photogrammetry and spectroscopy) combined with machine learning approaches to retrieve earth surface attributes in various ecosystems, such as soil organic carbon in croplands, canopy height and biomass in tropical forests.

Publications (* indicating corresponding author):

(a) Five representative publications from recent five years

1. **Zhang H***, Bauters M, Boeckx P, and Van Oost K. (2021). Mapping Canopy Heights in Dense Tropical Forests Using Low-Cost UAV-Derived Photogrammetric Point Clouds and Machine Learning Approaches. ***Remote Sensing***, 13(18), 3777.
2. **Zhang H***, Shi P, Crucil G, van Wesemael B, Limbourg Q, and Van Oost K. (2021). Evaluating the capability of a UAV-borne spectrometer for soil organic carbon mapping in bare croplands. ***Land Degradation & Development***, 32(15), 4375-4389.
3. **Zhang H**, Xiong P, Jia Z, Zhou J, Niu F, and Xu B*. (2021). Responses of soil respiration to rainfall depth and frequency in semiarid grassland communities. ***Ecohydrology***, e2326.
4. **Zhang H***, Aldana-Jague E, Clapuyt F, Wilken F, Vanacker V, and Van Oost K. (2019). Evaluating the potential of post-processing kinematic (PPK) georeferencing for UAV-based structure-from-motion (SfM) photogrammetry and surface change detection. ***Earth surface dynamics***, 7(3), 807-827.
5. Niu F, Chen J, Xiong P, Wang Z, **Zhang H**, Xu, B*. (2019). Responses of soil respiration to rainfall pulses in a natural grassland community on the semi-arid Loess Plateau of China. ***Catena***, 178, 199-208.

(b) Five representative publications beyond the recent five-year period

1. **Zhang H**, et al., (2017). Soil respiration response to simulated rainfall pulses in natural grassland communities in loess hilly-gully region. ***Acta Scientiae Circumstantiae***, 37(8): 3139-3148. (In Chinese)
2. Xiong P, Shu J, **Zhang H**, Jia Z, Song J, Palta J A, and Xu B*. (2017). Small rainfall pulses affected leaf photosynthesis rather than biomass production of dominant species in

semiarid grassland community on Loess Plateau of China. ***Functional Plant Biology***, 44(12), 1229-1242.

3. Huang J, Gao Z, Chen J, **Zhang H**, and Xu B*. (2016). Diurnal and seasonal variations of soil respiration rate under different row-spacing in a Panicum virgatum L. field on semi-arid Loess Plateau of China. ***Journal of Arid Land***, 8(3), 341-349.
4. Niu F, Duan D, Chen J, Xiong P, **Zhang H**, Wang Z, and Xu B*. (2016). Eco-physiological responses of dominant species to watering in a natural grassland community on the semi-arid Loess Plateau of China. ***Frontiers in plant science***, 7, 663.

Academic activities:

Invited presentation: "UAV-based remote sensing: Principles and Applications" (in Chinese), College of Earth Sciences, Jilin University, 2022.

Invited presentation: "Seeing the ground below dense trees: Mapping canopy heights and biomass in dense tropical forests using low-cost UAV-derived photogrammetric point clouds", CAVElab, Ghent University, 2021.

Poster presentation: "Evaluating the performance of UAV photogrammetry with PPK positioning in topographic reconstruction and change-detection", EGU General Assembly 2019.

Workshop: RPAS training. Catholic University of Louvain, Louvain-la-Neuve, Belgium, 2018.

Workshop: Copernicus and Unmanned Aerial Platforms. European Commission, Brussel, Belgium, 2018.