

# HoonTaek Lee

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(Updated: September 2020)

## EDUCATION

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2020 - present	PhD Student, <b>Max Planck Institute for Biogeochemistry</b> , Jena, Germany
2018 M. S.	Dept. of Forest Sciences, <b>Seoul National University</b> , Seoul, Rep. of Korea Thesis: Impact of Leaf Area Index from Various Sources on Estimating Gross Primary Production in Temperate Forest Using JULES Land Surface Model Advisor: Prof. Hyun Seok Kim
2015 B. S.	Dept. of Forest Sciences, <b>Seoul National University</b> , Seoul, Rep. of Korea Advisor: Prof. Hyun Seok Kim

## APPOINTMENTS

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2020 - Present	Researcher, <b>Max Planck Institute for Biogeochemistry</b> , Jena, Germany
2018 - 2020	Researcher, <b>National Institute of Forest Science</b> , Seoul, Rep. of Korea
2016 - 2018	Research Assistant, <b>Seoul National University</b> , Seoul, Rep. of Korea

## RESEARCH INTERESTS

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Tree physiology, Forest ecosystem modeling, Biosphere-atmosphere interactions and feedbacks

## PUBLICATIONS (SELECTED)

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7. **HoonTaek Lee**, Myoungsoo Won, Sukhee Yoon, and Keunchang Jang. 2020. Estimating fuel moisture content using meteorological data from the Automatic Mountain Meteorology Observation System (AMOS): a model intercomparison study., *Forests*, 11(9), 982. <https://doi.org/10.3390/f11090982>
6. Woo Kyung Song, Si Yeon Byeon, **HoonTaek Lee**, Min Su Lee, Daun Ryu, Jun Won Kang, Sim Hee Han, Chang Young Oh, and Hyun Seok Kim. 2020. Species-specific morphological and physiological characteristics and progressive nitrogen limitation under elevated CO<sub>2</sub> Concentration, *iForest*, 13: 270-278. <https://doi.org/10.3832/ifor3288-013>
5. Boknam Lee, Juhan Park, **HoonTaek Lee**, Tae Kyung Kim, Sunhee Cho, Jongguk Yoon, and Hyun Seok Kim. 2020. Over 15 years of changes in tree species composition and distribution patterns in Mts.Jiri and Baegun, Republic of Korea, *Forests*, 11 (2), 186. <https://doi.org/10.3390/f11020186>
4. Myoungsoo Won, Keunchang Jang, Sukhee Yoon, and **HoonTaek Lee**. 2019. Change Detection of Damaged Area and Burn Severity due to Heat Damage from Gangwon Large Fire Area in 2019. *Korean Journal of Remote Sensing*, 35 (6-2), 1083-1093. <https://doi.org/10.7780/kjrs.2019.35.6.2.5> (In Korean with English abstract)
3. **HoonTaek Lee**, Myoungsoo Won, Sukhee Yoon, and Keunchang Jang. 2019. Estimating fuel moisture content using equilibrium moisture content computed from weather data of the Automatic Mountain Meteorology Observation System (AMOS). *The Korean Association of Geographic Information Studies*, 22 (3), 21-36. <https://doi.org/10.11108/kagis.2019.22.3.021>
2. **HoonTaek Lee**, Juhan Park, Sungsik Cho, Minsu Lee, and Hyun Seok Kim. 2019. Impact of leaf area index from various sources on estimating gross primary production in temperate forests using the JULES land surface model. *Agricultural and Forest Meteorology*. 276-277, 107614. <https://doi.org/10.1016/j.agrformet.2019.107614>

1. Minjee Park, Sungsik Cho, Juhan Park, **HoonTaek Lee**, Woogyung Song, Minsu Lee, Il-Kwon Park, and Hyun Seok Kim. 2019. Size-dependent variation in leaf functional traits and nitrogen allocation trade-offs in *Robinia pseudoacacia* and *Cornus controversa*. *Tree Physiology*, 39 (5), 755-766. <https://doi.org/10.1093/treephys/tpy150>

## RESEARCH EXPERIENCE

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**Sep. 2020 – Present**      **Researcher,**  
**Max Planck Institute for Biogeochemistry, Jena, Germany**

- Water-carbon-cycle interactions across scales

**Aug. 2018 – Jun. 2020**      **Researcher, Dr. Myungsoo Won**  
**National Institute of Forest Science, Seoul, Rep. of Korea**

- Development of models estimating dead fuel moisture content (DFMC) for forest fire danger rating

**Aug. 2014 - Aug. 2018**      **Research Assistant, Prof. Hyun Seok Kim**  
**Seoul National University, Seoul, Rep. of Korea**

- Development of predictive service for forest water use using JULES LSM
- Long-term vegetation dynamics of Seoul National University Forest using stable isotope tracer
- Evaluation of climate change adaptation mechanisms of native temperate tree species and its ecological effects using open-top chambers

## TEACHING EXPERIENCE

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Spring 2016,                      Teaching Assistant, **Seoul National University**, Seoul, Rep. of Korea  
Spring 2017                      Course title: **Tree Physiology** (lab session, grading)

## CONFERENCE PRESENTATIONS (SELECTED)

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**HoonTaek Lee**, Juhan Park, Sungsik Cho, Seung-Jae Lee, Hyun Seok Kim. 2017. Development of Forest Drought Index and Forest Water Use Prediction in Gyeonggi Province, Korea Using High-Resolution Weather Research Forecast Data and Localized JULES Land Surface Model. *AGU Fall Meeting* (New Orleans, LA, USA, Dec.)

**HoonTaek Lee**, Woogyung Song, Minsu Lee, Boknam Lee, Sungsik Cho, Juhan Park, Lee Man Mun, Seon Hee Cho, Sung-jae Lee and Hyun Seok Kim. 2017. Does Competition on Water Affect the Decline of the Conifer in Mt. Baegun, Korea? *ESA Annual Meeting* (Portland, OR, USA, Aug.)

## AWARDS & SCHOLARSHIPS (SELECTED)

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2017 - 2019                      Best Oral Presentation Awards (three times in total, Korean Conferences)  
Jan. 2017                      Lecture & Research Scholarship, College of Agriculture and Life Sciences,  
Seoul National University

## SKILLS

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**Languages:** Korean, English      **Programming:** R (Entry level: Python, C, Fortran)

### Experimental facilities and sampling

- Plant canopy analysis (LAI-2200, Li-Cor)      -Leaf gas exchange (Li-6400, Li-Cor)
- Leaf water potential (1505D pressure chamber, PMS Instrument Company)
- Soil CO<sub>2</sub> efflux (EGM-4, PP-Systems)