

Postdoc_UrbanSpec@SNU

http://environment.snu.ac.kr/postdoc_urbanspec/

Title: Integration of drone based hyperspectral remote sensing, CubeSats and image fusion to monitor structure and functions of urban ecosystems

Job description:

The Environmental Ecology Lab at Seoul National University is seeking a postdoctoral fellow who will take the leads in a project that aims to monitor urban ecosystem structure and functions at very high spatial and temporal resolutions. In a large urban park nearby Seoul, intensive observations of leaf traits, drone based hyperspectral remote sensing, terrestrial LiDAR will be conducted, which will be upscaled to the city scale by coupling with satellite remote sensing, particularly Cubesats. The tasks will involve machine learning which will be trained in the urban park then applied to the city scale. This project will fully use hyper information across spectral, spatial and temporal domains across near-surface to satellite remote sensing to monitor individual tree level structure and physiology daily.

Specific tasks include:

- Calibration of drone based hyperspectral imaging system
- Image acquisition/processing
- Measuring leaf traits (Chl, Carotenoid, C:N, LMA, optical properties, ...) in field
- Retrieval of drone based plant physiological information such as SiF, canopy traits and stress
- Image fusion with Cubesats and other satellites

We have a great team. Above tasks will be supported and shared by other team members too.

Qualifications:

A PhD in remote sensing, ecophysiology, biometeorology or a related field is required. Strong background in photosynthesis, leaf traits, big data analysis and remote sensing are required. Moderate to excellent skills in English are expected. Driving license is essential.

General information:

Seoul National University is located in the Gwanak Mountain, southern part of the Seoul City in South Korea. Numerous mountain trails are accessible in the campus whereas “Gangnam”, the center of amusement in Seoul, is within 30 min. There are diverse groups of international students/scholars. There is a dormitory for international scholars which offers nice housing (family or single) with low cost.

This is a 1-year position. Pending successful performance, the position may be renewed up to 3.5 years. The review of applications will start immediately until the position is filled. Please submit applications (including cover letter, CV, and the names and contact information of three references) via email to Dr. Youngryel Ryu (ryuyr77@gmail.com). If you have any question, feel free to send emails to Dr Ryu. Welcome to visit our lab webpage to see our research and activity (<http://environment.snu.ac.kr/>).