Sensors and Materials

Special Issue on Innovative Approaches to Forest Monitoring Using Sensing Techniques Call for Papers

Biological diversity is rapidly declining and becoming a serious global problem. In finding solution to this problem, there are highly required advanced technologies and tools to measure impact and manage risk on the forestry sector. Forests play a vital role in global climate change mitigation and adaptation through carbon sequestration from the atmosphere. However, we still have large uncertainties in estimating the carbon stock and sequestration when using forest ecosystems as a tool for carbon neutrality. In recent years, smart sensing technologies for monitoring forest growth and assessing forest volume associated with forest structures (crown, stems, roots, and soil) have been rapidly developing in fields related to forest carbon management. Among the potential data sources available for precisely investigating forest inventory, LiDAR and external sensor data may be the most accurate and can be acquired with a reasonable cost. The purpose of this Special Issue is to highlight the significance and contribution of innovative sensing technologies in detecting forest species and structure to improve the accuracy level of forest carbon measurement. This Special Issue will focus on theoretical and experimental studies including sensor technologies that enable more efficient forest carbon detection and management to promote carbon neutrality.

Scope:

- Forest carbon assessments

- Estimating forest carbon using sensor techniques

- Precision forestry

- Forest soil carbon

- Terrestrial laser system (TLS)

- IOT application in Forestry

- Remote sensing

- Robotics in forestry

- Mobile laser system (MLS)

- Unmanned aerial vehicles (UAVs) in forestry

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Editorial Department of Sensors and Materials

MYU K.K.

1-23-3-303 Sendagi, Bunkyo-ku, Tokyo 113-0022, Japan

Tel: +81-3-3827-8549, Fax: +81-3-3827-8547

E-mail: myukk@myu-inc.jp

