

**SPECIAL ISSUE ON APPLICATION OF INNOVATIVE SENSING TECHNIQUES
FOR MONITORING AND ASSESSING FOREST CARBON MITIGATION EFFECT
TO PROMOTE CARBON NEUTRALITY**

PREFACE



Forest ecosystems play a vital role in global climate change mitigation and adaptation through carbon sequestration from the atmosphere. However, there are still large uncertainties in estimating the carbon stock and sequestration of forests as a measure for carbon neutrality. In recent years, smart sensing technologies for monitoring forest growth and assessing forest volume associated with forest carbon sequestration have been rapidly developing in the fields of forest management related to forest carbon management. Among the potential data sources available for precisely investigating forest inventory, light detection and ranging (LiDAR) and external sensor data can be the most accurate, with data acquired at a reasonable cost.



The purpose of this Special Issue is to highlight the significance and contribution of smart sensing technologies in monitoring and assessing forest structure and carbon sequestration potential. It focuses on theoretical and experimental studies including those on individual or integrated devices and machinery, sensors, and technologies that enable more efficient management and planning to promote carbon neutrality. This special issue is expected to be of high interest to readers of *Sensors and Materials* by illustrating the many useful sensing techniques that can be used as efficient tools for monitoring and assessing the forest carbon mitigation effect to promote carbon neutrality. I would like to thank all the authors, reviewers, and other people who have contributed to the editorial process. Special thanks go to Ms. Misako Sakano, the leader of the Editorial Department, for her invaluable help and encouragement.

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