

## **STSM title: COMPARISON OF TWO DIFFERENT APPROACHES FOR ASSESSING URBAN FOREST ABOVEGROUND BIOMASS**

Dr. Magdalena Sajdak, assistant professor from the Wood Technology Institute in Poznan (Poland) carried out a Short Term Scientific Mission at the University of Bari Aldo Moro (Italy) where she collaborated with Prof. Giovanni Sanesi and his research team. The STSM funded by the COST Action FP1204 took place between 26.09.2016-19.10.2016 and focused on the comparison of two different approaches for assessing urban forest aboveground biomass.

The main goal of the STSM was: 1) to start co-operation with Prof. Giovanni Sanesi and his research team of University of Bari Aldo Moro 2) to obtain new competences about the application of LiDAR technology and dedicated software for urban tree aboveground biomass estimation, 3) to have access to new equipment and modelling software as well as to learn how to operate them, 4) to conduct a comparative study on urban forest measurements obtained by traditional measurement methods and remote sensing and 5) to evaluate the obtained results.

The goals of this STSM research were successfully achieved. Moreover, additional outputs were obtained in form of: 1) conference abstract titled „Terrestrial laser scanning as a smart tool for estimating urban tree biomass for bioenergy production” (authors: Sajdak Magdalena, Colangelo Giuseppe, Sanesi Giovanni) submitted and accepted by „Young Researchers Conference: Energy Efficiency & Biomass” that will take place 1-3.03.2017 in Wels, Austria 2) research paper titled „Terrestrial laser scanning as a smart tool for managing ecosystem services in urban forests” prepared for submission and 3) presentation titled „Technologies driving forest resources inventories” (authors: Colangelo Giuseppe, Magdalena Sajdak) presented at GreenInUrbs workshop „Applications of laser scanner technology in urban forestry”, Università degli studi di Bari Aldo Moro, Dipartimento di Scienze Agro-Ambientali e Territoriali (DISAAT) on 18 October 2016.

The STSM contributed to WG1 Environmental services of GI and UF and implications of climate change. The results of this work raise awareness on ground LiDAR technology as an indirect tool/method for mapping various ecosystem services, especially bioenergy production. The study indicates that TLS allows obtaining precise information on UF biomass that could help to meet EU's growing demand for renewable energy.