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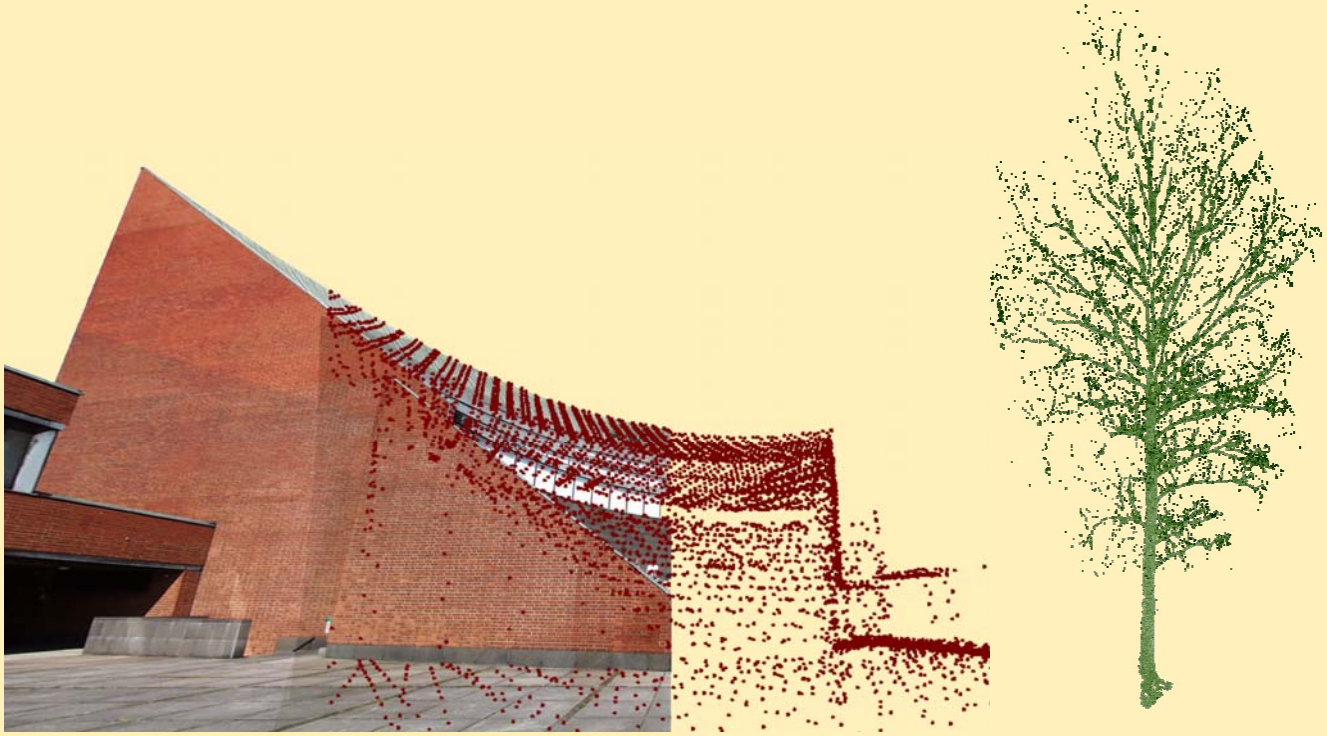
'Laser Scanning 2007 and SilviLaser 2007'

Espoo, Finland

12 – 14 September 2007



Editors
P. Rönnholm, H. Hyyppä, J. Hyyppä

Organisers
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Finnish Geodetic Institute
Institute of Photogrammetry and Remote Sensing, Helsinki University of Technology (TKK)

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Preface

ISPRS Workshop on Laser Scanning and SilviLaser 2007, for which we use acronym LS SL 2007, is a continuation of ISPRS Workshops on Laser Scanning, held in Dresden 2003 and in Enschede 2005, and laser scanning workshops of forestry, held e.g. in Canada and Australia 2002, Umeå 2003, Freiburg 2004, Blacksburg 2005, Vienna 2006 and Matsuyama 2006. By putting together the technology-oriented laser scanning and the forestry-related silvilaser conference series we wanted to foster the development of methods and applications in both communities. Thus, the workshop is intended to bring together an interdisciplinary group of researchers, system developers, data providers, application developers, and end-users of airborne and terrestrial laser scanning on both disciplines.

The workshop is organized in co-operation with the Finnish Geodetic Institute (FGI) and Helsinki University of Technology (TKK). The workshop actually celebrates 10 years' research on laser scanning at TKK and FGI. The research was initiated in 1997 in co-operation with FM-Kartta Oy (today known as Blom Kartta Oy). At that time, Arttu Soininen from Terrasolid Oy has already implemented some first tools for ALS. Today, the co-operation with these companies is even stronger. Prior to the ALS research in Finland, there were already related research going on: laboratory measurements of lidar/laser, 3D video digitizing, waveform-based microwave radar development and data analysis and use of profiling radar for forest inventory, and thus the physics and background of ALS were already very familiar to the researchers. Today, both the forest community and public authorities (e.g. National land survey) are aiming at using laser scanning for operative forest inventory and DEM generation in Finland implying that the research has had some impacts.

The papers in the proceedings to be distributed at the workshop are peer reviewed by at least two (most of them by three) experts in the field. The names of the reviewers are mainly selected from the scientific board, which we even had to enlarge due to the need of so many reviews. Additionally, the editorial board read the papers. We hope that all our effort improved the quality of the papers.

In the LS SL 2007, there is also a collection of keynote presentations. We were very fortunate to have prof. Wolfgang Wagner to talk about waveform analysis techniques, software developer Arttu Soininen, father of TerraScan and other TerraSolid products, prof. Matti Maltamo giving summary of ALS-based experiences and possibilities in forestry, prof. Norbert Pfeifer focussing on geometrical aspects of ALS and TLS and Petri Rönnholm talking about integrating LS and photogrammetry. The main findings of Wagner, Maltamo, Pfeifer and Rönnholm can also be read from the proceedings.

Finally, we want to thank all contributing authors, scientific board, other reviewers, our sponsors, the companies in exhibition and local organizing committee. Their support was essential for realizing the workshop, which we hope to contribute to science and practice.

Juha Hyyppä, Petri Rönnholm and Hannu Hyyppä
Otaniemi 24 August 2007

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