

**Programme & abstracts**  
 for  
**the 18<sup>th</sup> International Conference on Orienteering Mapping**

**Date:** Friday, October 5, 2018

**Venue:** Conference room MERCURY, [Hotel Pyramida Prague](#), Czech Republic

PROGRAMME

8:30 – 8:40	<i>Conference opening and welcome speech</i>	László Zentai <i>IOF Council, Eötvös Loránd University</i>
8:40 – 9:00	<b><i>From photogrammetry to automatic production of base map with Lidar data</i></b>	Flemming Nørgaard <i>Danish Orienteering Federation</i>
9:00 – 9:20	<b><i>Semi-Automatic Extraction of Near-Ground Vegetation from Lidar Data</i></b>	Gian-Reto Schaad <i>OCAD AG</i>
9:20 – 9:40	<b><i>Generalize orienteering maps by creating TPI smoothed contour lines and using the Check Legibility tool</i></b>	Hubert Klauser <i>OCAD AG</i>
9:40 – 10:00	<i>Coffee break</i>	
10:00 -10:20	<b><i>How to create a good video for creating a sprint map at home</i></b>	Igor Bončina <i>Slovenian Orienteering Federation</i>
10:20 – 10:40	<b><i>The development of a map archive for the Austrian Orienteering Federation</i></b>	Robert Ditz <i>Austrian Orienteering Federation</i>
10:40 – 11:00	<b><i>Archiving orienteering maps - project in Slovenia</i></b>	Dušan Petrovič <i>University of Ljubljana, Slovenian Orienteering Federation</i>
11:00 – 11:20	<b><i>O-Map Wiki project - proposal for crowdsourced mapping Wikipedia</i></b>	Luděk Krτίčka <i>IOF Map Commission, University of Ostrava</i>
11:20 – 11:40	<i>Coffee break</i>	
11:40 – 12:00	<b><i>Solutions for orienteers with colour vision defects</i></b>	Adrian Uppill, Luděk Krτίčka <i>IOF Map Commission, University of Ostrava</i>
12:00 – 12:20	<b><i>Symbol set for the school maps</i></b>	Ueli Schlatter <i>IOF Map Commission</i>
12:20 – 12:40	<b><i>Discussion on ISOM2017 Appendix 1 - CMYK Printing and Colour Definitions</i></b>	Christer Carlsson <i>IOF Map Commission</i>
12:40 – 12:45	<i>Conference closing</i>	Luděk Krτίčka <i>IOF Map Commission</i>

### **Additional information**

We have a plan to make live video broadcast from ICOM conference to Orienteering Mappers Int. group on Facebook. In case of any questions related to conference feel free to contact ICOM responsible: Luděk Krtička, zaves (AT) email (DOT) cz.

### **Afternoon programme**

13:45 – Excursion to the [Žaket publishing company](#) (for those who registered), departure from Hotel Pyramida

17:00 – Sprint walk map Petřín, start at reception of Hotel Pyramida

## ABSTRACTS

### ***From photogrammetry to automatic production of base map with Lidar data***

*Flemming Nørgaard*

In 2006, the whole Denmark was scanned by a private company (COWI) and mappers left photogrammetry in favour of base material based on Lidar data and especially the production of contours came a big step forward. In 2015, the whole of Denmark was scanned again with a better resolution and this time a state-owned company. The Elevation Model consists of several data sets that are developed from laser scanning of Denmark. That means much better linear data and details we previously had no opportunity to get. And the very best: Data was released from SDFE (Agency for Data Supply and Efficiency) which is part of Danish Ministry of Energy, Utilities and Climate and can be downloaded for free via a server connection. At the same time, one of our mapmakers, Ulrik Nielsen, Engineer from DTU specializing in radar signal processing and data analysis, made an application, MapMagic, which automatically retrieves data and produces different base map for use in production of orienteering maps. In the presentation I will show the development with examples and base material, as it appears today. I will present how MapMagic works and what it requires from the mapmakers.

### ***Semi-Automatic Extraction of Near-Ground Vegetation from Lidar Data***

*Gian-Reto Schaad*

Lidar delivers a three-dimensional point cloud with a huge amount of data. The challenge is to gain the relevant information from this geodata about the vegetation for developing an orienteering base map. Based on this work, a new module for the interactive preparation of the base map for vegetation mapping from Lidar data was developed in the cartography software OCAD 2018. This module allows a new, interactive analysis of the vegetation and provides the cartographer with a better vegetation base map for the mapping in the terrain.

### ***Generalize orienteering maps by creating TPI smoothed contour lines and using the Check Legibility tool***

*Hubert Klauser*

Calculating contours from LiDAR data has become a standard procedure in the workflow of creating orienteering maps. The resulting contours often are too detailed with a lot of “noise” which is useful for the fieldwork but not for the map itself. On the other hand, general smoothing algorithms soften sharp terrain edges. Regarding this situation, a new generalization approach using the topographic position index (TPI) was implemented in OCAD. The resulting contours are smoothed much better than before. Generalization is a permanent topic regarding the legibility of orienteering maps. The new ISOM 2017

specification defines a series of dimension rules. Some of them (minimum distances between objects, minimum line length, minimum area size) can be checked in the new Check Legibility tool of OCAD.

### ***How to create a good video for creating a sprint map at home***

*Igor Bončina*

I tried to create a good video in the city of Ptuj that I can create sprint map at home later. The point is to make good video in 1 hour (if you don't have enough time). The results, advantages and disadvantages of such an approach are presented.

### ***The development of a map archive for the Austrian Orienteering Federation***

*Robert Ditz*

Till now, the archive for the Austrian Orienteering Federation was managed with an EXCEL spreadsheet. The information, especially the area of the map, for the financing of orienteering maps by the federation were given by the clubs and had to be assumed as true. A graphic overview of the maps was realised by overlays for the AMap Fly, a program based on the EADS Greogrid. This proprietary program is not suitable for the internet and the internet version cannot load the overlays. Besides, this approach offers no database and possibilities to search for certain maps. Therefore, it was necessary to develop a new archive system with GIS technology to administer the maps for financing and managing area reservation. In addition, an internet app should offer an information system of the archive for the orienteering community in Austria. This presentation shows the motivation, the background and the development of this archive and the internet app.

### ***Archiving orienteering maps - project in Slovenia***

*Dušan Petrovič*

Archiving all kind of maps in digital form is a great problem both for map and archive community. Non state-institutional maps, published by some interest groups or organizations, such as orienteering maps give even special issues and need special focus. The maps usually cover some specific smaller areas of interest. On the same territory maps with slightly different content may exist (e.g. versions of map for different orienteering sports' disciplines), each of those map usually has its specific updating period, also only part of old map can be updated, different maps can overlap. Those maps are important funds for the owners and have to be safety stored, on the other hand they can be of interest for many users and therefore should be easy accessible for them. There are some options using different file, server or repository systems, where each has advantages and weaknesses. Slovenian orienteering federation together with Archives of the Republic of Slovenia started the test project with possible solutions of archiving orienteering maps.

### ***O-Map Wiki project - proposal for crowdsourced mapping Wikipedia***

*Luděk Krtička*

Technological developments in recent decades has provided new possibilities for orienteering map creation. New types of basemaps derived from LIDAR data and use of GNSS led to more accurate maps. Also orienteering as a sport has developed new disciplines and new map specifications were created or updated. Generally, the amount of information in orienteering mapping has increased. Despite considerable progress in a number of areas, the most current problem is the fragmentation and incompleteness of information about problematics of orienteering map creation. A number of materials are obsolete (including IOF MC Instructor's kit for O-mapping courses), of varying quality, language mutations and placed in different sources such as software producers' websites or individual national federations. Therefore, it seems appropriate to build an information resource that will remove these shortcomings and provide relevant and up-to-date information to orienteering community.

***Solutions for orienteers with colour vision defects***

*Adrian Uppill, Luděk Krtička*

Orienteers with colour vision deficiency may face different issues when reading a colour coded orienteering map. These issues can be compounded when competition maps are not printed to specification in respect to correct colour and print quality. ISOM 2017 improved recognition of symbols without relying on colour by introduction of specific symbols per colour. However further work is still needed in other areas. The purpose of this contribution is to provide a brief introduction of possible solutions such as improving colour settings or changes to the symbols to aid in identifying them.

***Symbol set for the school maps***

*Ueli Schlatter*

The IOF Map Commission has received a request from the Regional and Youth Development Commission in order to produce a set of symbols for school maps. A few countries already developed such set of symbols like Switzerland with the sCOOL project, Sweden, Norway, Australia etc. The symbol sets are different, which makes for example the exchange of education documents more difficult. The analysis of the various symbol sets resulted in a proposal for a simple symbol set as an addition to the ISSOM.

***Discussion on ISOM2017 Appendix 1 - CMYK Printing and Colour Definitions***

*Christer Carlsson*

Presentation introduces the reasons for changing the recommendations and rules for reproduction of orienteering maps: technical development in printing techniques, demands for easier organization of competitions and a change of view how to create the most readable map. Advantages and disadvantages of offset and laser printing are discussed in relation to orienteering disciplines. Presented are correct settings for laser printing of maps and courses, namely colour order and handling of course setting symbols.