



**Ben-Gurion University of the Negev
Blaustein Institutes for Desert Research**

The Swiss Institute for Dryland Environmental and Energy Research
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Route Planning for Blind Pedestrians - Using and Enriching Crowdsourced Maps

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Abstract:

While most of us take wayfinding and orientation for granted, instinctively utilizing our visual channels to do so, millions of blind people around the worldwide face challenges and obstacles when attempting to perform the most basic of tasks, such as walking to the corner store or using public transportation. As blind pedestrians lack critical information about the space they traverse outside the familiarity of their home, they are restricted, dependent on others, and have decreased quality of life. While assistive technologies for providing specific navigation solutions do exist, research is still limited regarding customized wayfinding solutions for blind pedestrians. With the aim of increasing the mobility and independence of blind pedestrians, this research aims at developing a wayfinding algorithm that relies on the OpenStreetMap mapping catalogue for planning customized accessible and safe routes specifically suited to blind pedestrians. This talk will present the findings on the spatial criteria relating to mobility, accessibility, and safety of blind pedestrians, including the evaluation of the developed route planning software that relies on crowdsourced maps. The talk will also present ideas and developments on enriching crowdsourced maps with dynamic data that is critical to the route planning of blind pedestrians, and show the potential of using the route planning results for assessing the accessibility of the urban environment.

Date & Location:

Tuesday, December 31, 2019, 11:00

Lecture room, Physics Building (ground floor)