

# **Department Doctoral Thesis Defense Report**

## **The Assessment of the Influence of Land-Use and Topography on the Spatial Distribution of Soil Organic Carbon using Digital Soil Mapping**

**By**

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**Supervisor**

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### **Presentation:**

Shahin Nozari presented her Ph.D. thesis in the following parts. Duration of the whole presentation was about 18 minutes.

- ✓ The introduction focused on Soil Organic Carbon (SOC) and emphasized its significance.
- ✓ Digital soil mapping and relevant methods were introduced in the initial sections.
- ✓ The hypotheses and objectives were clearly presented to guide the study.
- ✓ The methodology section was structured into four parts.
- ✓ The corresponding results from each part were presented.
- ✓ The four main parts covered included:
  1. Impact of Slope, Elevation, and Clay on SOC in Different Land-Uses
  2. Impact of Region and Elevation on SOC Model Predictors
  3. Impact of Land-Use and Topography on SOC Spatial Distribution using DSM
  4. Impact of Land-Use on Soil Organic Matter (SOM)

**Questions and suggestions** raised during the presentation included:

- ✓ Jessica Reyes Rojas: Has signal analysis been conducted using DRIFT? Could you clarify the choice of DRIFT in this context?
- ✓ Prof. Ondřej Drábek: What is the rationale for using the DRIFT method for humic substances? There might be more effective spectral methods available for this purpose.
- ✓ Prof. Vít Penížek: What is the reason behind selecting different land-uses for the study?
- ✓ Prof. Ondřej Drábek: The graphs can be more readable, and units are missing in the tables. Consider revising and reducing the number of pictures and graphs. Summarize the main message for clarity.
- ✓ Prof. Vít Penížek: There is a lack of a general conclusion across all research papers.
- ✓ Prof. Luboš Borůvka: Show more on the screen. Work on improving the pronunciation of "Domažlice." The graphs on slide 23 are not clearly visible.
- ✓ Prof. Ondřej Drábek: Include the percentage of each paper author's contribution in the thesis.

The student answered all questions and comments.

### **Conclusion:**

The department agrees with the presented thesis and after considering incorporation of the raised suggestions and comments recommends submitting the thesis for final defense.

Written by Vahid Khosravi

