ME Special Seminar

Cross-Country Mobility Modeling in the Czech Republic

Tuesday, September 24, 2024
11:00AM-12PM, SL 165
Also on Zoom: https://purdue-edu.zoom.us/j/97301798180?pwd=WUjqeVeXv1buBdh0zh9oCLn1a0JQmX.1

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Abstract:

The presentation focuses on the technology of navigation of off-road vehicles of the Army of the Czech Republic. It discusses the classical paper maps of terrain passability and the transition to digital mobility models, allowing the calculation of the common influence of individual terrain objects on the movement of a particular off-road vehicle. Among the terrain features calculated are longitudinal and transverse slopes of terrain relief, soils, vegetation, watercourses, and weather effects. The calculation of the optimal route for a particular vehicle can be implemented in both raster and vector format in the form of a cost map or a navigation trajectory.

About the Speaker:

Prof. Marian Rybansky, Ph.D

Graduated at Military Academy in Brno in the field of geodesy and cartography in 1982. Senior editor (1982-84) and the head of the automated map production department (1984-86) at the Military Geographical Institute in Prague. Doctoral study at the Military Academy in Brno in the field of cartography (1986-89). Head of the cartography group at the Department of Military Information on the Territory, MA Brno (1994-2005). In 1996. Internship at CFB Borden, Ontario, Canada (1996). Professor of geodesy and cartography at the University of Defence in 2021. Main research area: analyses of the landscape in terms of its impact on the mobility and navigation of military vehicles. Main researcher, resp. co-investigator of 26 national and 7 international projects. Author or co-author of more than 200 publications including 4 books and 10 methodologies for industry. Member of the ICA Commission for Cartography in Crisis Management and Early Warning, member of the International Society of Terrain Vehicle Systems, member of the NATO panel focused on the development of the Next-Generation NATO Reference Mobility Model (NG-NRMM). In 2021 - awarded NATO AVT Excellence award for helping to develop the NG-NRMM. Lectures at dozens of universities, research institutions and conferences. In 2018 - award for best contribution at the 9th IGRSM conference on Geospatial and Remote Sensing - Kuala Lumpur. Chair, org. board member of 20 conferences. Member of the editorial boards of 3 journals indexed in the SCOPUS database.

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