UNIVERSITY OF ŽILINA
Faculty of Electrical Engineering and Information Technology

Topic of dissertation thesis

Academic year *2026/2027*

Title	**Research on mobile object localization based on radio channel state information in wireless network environments.**		
Institute	Faculty of Electrical Engineering and Information Technology University of Žilina		
Place	Žilina, Slovakia		
PhD. programme	telecommunication		
Supervisor	prof. Ing. Peter Brída, PhD. KMIKT-FEIT-UNIZA		
Co-supervisor	----------		
Study form	**Internal**		
Study duration	3 years		
Study language	**slovak / english**		
Start date	1.9.2026		
Research domain	Telecommunication, ICT, wireless networks, IoT		
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Dissertation topic abstract

The aim of the dissertation is research focused on the use of Channel State Information (CSI) for the localization of mobile objects. The work will build upon the current dissertation project, whose partial outcomes include, for example, a data-collection software tool (https://github.com/KuskoSoft/FeitCSI). CSI has enormous potential that is still not fully exploited. The objective is to increase the accuracy and reliability of mobile localization by using optimal hardware equipment (receiver and antenna) and subsequent data processing.

Extended information, research responsibilities and tasks of PhD. candidate

The dissertation will be carried out in close collaboration with the research team of Professor José Luis Gómez Tornero at the Technical University of Cartagena, Spain (https://personas.upct.es/en/profile/josel.gomez). If the required conditions are met, it will be possible to obtain, in addition to the doctoral degree from UNIZA, a joint diploma from UPCT https://doctorado.upct.es/informacion/cotutelas.

Candidate profile

Required qualifications:
- Knowledge in ICT and radio networks
- Adaptability
- Independence
- Ability to work in a team
- Analytical and critical thinking
- Perseverance and discipline

Funding: VEGA 1/0580/25 - Research of effective localization and communication solutions in heterogenous wireless networks