Doctoral Thesis Themes 2026/2027
Study programme: **REGIONAL AND PUBLIC ECONOMICS**

Supervisor: Prof. Petr Hájek, Ph.D. (petr.hajek@upce.cz)

1. Modelling Dynamics of Regional Innovation Systems

The aim of the dissertation is to evaluate current approaches to modelling dynamics in regional innovation systems, to define the elements of regional innovation systems and its environment, to propose a suitable model, to simulate the development of regional innovation systems and assess the impact of public policies, and to compare the simulation results with the actual situation.

2. Impact of Interregional Cooperation on Regional Economic Development

The aim of the dissertation is to summarize current knowledge on the determinants of regional economic development with a focus on spillover effects, to propose ways of measuring interregional cooperation, to obtain relevant spatial data and to assess the impact of the proposed measures on the economic development of selected regions).

3. Towards Business Model Innovation for a Circular Economy

The aim of the dissertation is to summarize existing business models in the area of circular economy, to choose a suitable application domain, to propose a framework for evaluating the innovation of business models in this domain, to evaluate its impact on business performance, and to discuss implications for the development of circular economy.

Supervisor: Assoc. Prof. Viktor Prokop, Ph.D. (viktor.prokop@upce.cz)

1. Harnessing Digital Technologies for Sustainable Growth in Regional and National Innovation Ecosystems

The aim of the dissertation will be, among others, to assess the current state of digitalization processes and their impact on the economic, social, and environmental dimensions of sustainability (with an emphasis on the transition toward a circular economy). The research will include the identification of key stakeholders and their roles in implementing digital technologies. Attention will also be given to predicting future trends, particularly the influence of artificial intelligence on the development of innovation ecosystems. The results will contribute to formulating recommendations for the effective use of digitalization as a tool for sustainable development in diverse European innovation ecosystems.

Supervisor: Prof. Jan Stejskal, Ph.D. (jan.stejskal@upce.cz)

1. Regional Innovation Systems in Terms of Sustainability and Resilience

Regional innovation systems form a basic platform for the implementation of innovation processes in a defined space (usually a region), when applying the triple-helix approach. These systems have already been established in a number of regions and are supported by public policies, including financial support. The question of the effectiveness (sustainability and resilience) will be a research problem in the future. This requirement is gaining importance especially in the European area. Therefore, Ph.D. student should analyze the determinants and aspects influencing (or forming) regional innovation systems, analyze their importance for the innovation system and evaluate how they contribute to efficiency and sustainability.

Supervisor: Assoc. Prof. David Zapletal, Ph.D. (david.zapletal@upce.cz)

1. Supporting Sustainable Development through Digitalization Tools in Regional Innovation Ecosystems

The dissertation will concentrate on the exploration of opportunities to support sustainable development through the utilisation of digitalisation tools within regional innovation ecosystems. The work will analyse how digital technologies and processes can contribute to the efficient use of resources and the reduction of environmental impacts, with an emphasis on the transition to a circular economy. The thesis will be grounded in the concepts of sustainability, innovation, and digitisation, whilst considering the specifics of regional ecosystems, their respective actors, and the interrelationships between them. The identification of key digitisation tools that support the circular economy, green innovation and intelligent process management will be a component of the thesis.

2. Modelling the Cascading Impacts of Climate Change in Selected Regions

The impacts of climate change, including phenomena such as drought and floods, are not confined to a local scale; rather, they propagate in a cascading manner through various transmission chains, extending to other regions. The dissertation will concentrate on modelling these cascading impacts from an economic perspective. from the perspective of impacts on various types of economic and financial indicators.

Applicants can propose their own themes of dissertation theses. Such themes will be accepted upon agreement of a supervisor and advisory board of a particular study programme.