

Topics of dissertation theses for doctoral studies, field of study „Global Change Forestry“ – academic year 2020-2021:

- Effect of mycorrhization levels of susceptible broadleaved trees on development of infection caused by genus *Phytophthora* pathogens
- Interaction of mycorrhizal symbionts and seedlings in different climatic conditions: case of intensity of radiation and coniferous seedlings
- Mapping climate exposure of European forest ecosystems based on ensemble of climate models
- Climate change-related drivers of wind and bark beetle disturbances: Approach based on the landscape-scale forest model iLand
- Forest biodiversity and disturbances in central European forest Landscapes: Approach based on the landscape-scale forest model iLand
- Response of forest ecosystem to the environmental stress along extended ecological gradient in Europe: Approach based on the process-based model BiomeBGC-MUSO
- Invasive forest insects in central Europe - the role of climate change
- Influence of elevated temperature and CO₂ on the phenology and nutritional quality for lymantriid herbivores, *Lymantria dispar*
- Structure and dynamics of the *Picea abies* dominated forest ecosystems in east Europe
- Structure and dynamics of the *Fagus sylvatica* dominated forest ecosystems in south-east Europe
- Disturbance regime of the *Picea abies* dominated forest ecosystems in east Europe
- Disturbance regime of the *Fagus sylvatica* dominated forest ecosystems in south-east Europe
- Norway Spruce vulnerability to cavitation in relation to altitude
- Water redistribution in roots of Norway Spruce under drought
- Changes in secondary metabolism products composition of Norway Spruce under bark beetle attack
- Different mineral nutrition of spruce seedlings with relationship to fungal pathogen attack
- Socio-economic impacts of global change on the forestry sector
- Analysis of economic instruments and their utilization in global change adaptation
- Analysis of actors related to global change policy
- Communication as a tool for conflicts management and understanding the impacts of global change

- Impact of climate change on forest ecosystems
- Impact of climate change on bark beetle and spruce interaction dynamics
- Climate change and its impact on bark beetle symbiotic associations
- New formulations for forest pest management under global change forestry
- Impact of climate change on forest ecosystem services
- Analysis of economic impacts of mitigation and adaptation measures in forestry
- Silvicultural adaptation strategies to mitigate climate-related stressors
- Forest management planning with respect to climate change
- Impact of climate change on tree species composition
- Impact of climate on vertical distribution shift of sawfly in central Europe
- Influence of climate on vertical shift of outbreak region of nun moth in central Europe