



# NIBIO

## NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

Kapcsolat: Nemes Attila

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### 1. Soil and land use research

Field and laboratory experimentation; effect of soil management on soil structural properties and hydraulic functions.

1-2-3D modeling of water and nutrient transport at profile, plot and field scales.

Drainage and winter conditions issues. Effects of land various management practices (soil tillage, mulching, biochar application etc.) on soil water and heat regimes.

### 2. Water quality research

Analyzing the data of various monitoring systems on the effects of climatic, land use and soil management conditions on surface and subsurface runoff, soil erosion and nutrient losses.

Applying distributed (GIS-based) and semi-distributed catchment-scale hydrological and bio-geo-chemical models for describing the processes of flow generation, transport of soil particles and nutrients from the field to the catchment outlet.

Scenario analyses for estimating the effects of various land use systems and soil management practices on catchment-scale transport processes in the light of the predicted climate change.

Developing various mitigation measures to reduce soil, nutrient and contaminant losses and to improve surface water quality.

### 3. Waste management

Studying and developing waste management methods; NIBIO has an access to the NMBU (Norwegian Univ. of Life Sciences) biogas laboratory.

Studying the possibilities of treating digestates from biogas plants of different origins (food waste, sewage sludge etc.). Composting and vermicomposting.

### 4. Urban greening and urban water management

Studying the opportunities of increasing water retention within the urban and sub-urban areas for decreasing the flash flood and soil losses. Green roofs, sedimentation ponds, urban greening.



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