



The **Department of Soil Science** is part of the Institute of Environmental Sciences at the Hungarian University of Agricultural and Life Sciences. The Institute focuses on specific aspects of education, training, scientific research, and consultation within the fields of agricultural and environmental sciences. The organisational and educational structure encompasses all aspects of environmental sciences, relevant to agricultural practices. The department specializes in soil formation, soil classification, and soil geography, with a focus on practical aspects of soil fertility management, amelioration, and soil conservation. The department examines soil carbon sequestration capacity, monitoring soil health and condition with biological indicators, integrating modern soil sampling methods into practical soil science, and developing diagnostic soil classification systems as well as European, African, and Asian soil information systems, further more nutrient release, short- and long-term analysis of the effects of organic and inorganic fertilizers, and agricultural use of waste, as well as the development and testing of new crop-enhancing materials.

### **Principal Investigator:**

**Dr Tamás András Szegi** graduated as a Landscape and Environmental Engineer from the Hungarian University of Agricultural and Life Sciences (Szent István University) and joined the Department of Soil Science. He earned his PhD in 2009 from the Hungarian University of Agricultural and Life Sciences (Szent István University). Now he works as an associate professor. During his career, he took part in several national and international projects; currently, he is the national coordinator of the Refining Soil Conservation and Regenerative Practices to Enhance Carbon Sequestration and Reduce Greenhouse Gas Emissions (C-arouNd EJP SOIL) project. He is the course leader of the following lectures: Soil Conservation, Soil Amelioration and Soil Protection, Soil Physics. Scopus ID: 8367041200 <https://www.researchgate.net/profile/Tamas-Szegi-2>.



### **Main scientific tasks in the project:**

Tamás Szegi's main responsibility in WP1 is to provide the essential soil information of the investigated areas under different climatic conditions. The following parameters will be investigated: SOC, N, CaCO<sub>3</sub>, pH, salt content, soil texture, and plant-available nutrients.

*“As a result of this collaboration, our achievements can play an essential role in exploring the connections and relationships among soil parameters across different climatic zones, different physical and chemical soil properties, and soil groups under a changing climate, which shape microbiological communities and, probably, mycotoxin profiles. Our research can contribute to replacing maize with sorghum if it is necessary due to climate change in the future.”*