



## **The BonaRes Centre – A virtual institute for soil research in the context of a sustainable bio-economy**

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Fertile soils are central resources for the production of biomass and provision of food and energy. A growing world population and latest climate targets lead to an increasing demand for both, food and bio-energy, which require preserving and improving the long-term productivity of soils as a bio-economic resource. At the same time, other soil functions and ecosystem services need to be maintained. To render soil management sustainable, we need to establish a scientific knowledge base about complex soil system processes that allows for the development of model tools to quantitatively predict the impact of a multitude of management measures on soil functions. This, finally, will allow for the provision of site-specific options for sustainable soil management.

To face this challenge, the German Federal Ministry of Education and Research recently launched the funding program “Soil as a Natural Resource for the Bio-Economy – BonaRes”. In a joint effort, ten collaborative projects and the coordinating BonaRes Centre are engaged to close existing knowledge gaps for a profound and systemic understanding of soil functions and their sensitivity to soil management.

This presentation provides an overview of the concept of the BonaRes Centre which is responsible for i) setting up a comprehensive data base for soil-related information, ii) the development of model tools aiming to estimate the impact of different management measures on soil functions, and iii) establishing a web-based portal providing decision support tools for a sustainable soil management. A specific focus of the presentation will be laid on the so-called “knowledge-portal” providing the infrastructure for a community effort towards a comprehensive meta-analysis on soil functions as a basis for future model developments.