From Molecules to Ecosystems - advanced insights for new agronomical solutions

Advances in various technologies (chemicals, biologicals, genetic sources, data science & modeling, etc.) are enabling us to address current and future requirements in regenerative agriculture and food production across different scales by exploring the relationships between (soil-) micro-organisms and ecosystems at the molecular level. These new findings advance our understanding of the effects of agronomic solutions on target and non-target organisms, the ecosystem as well as dependencies, e.g., on climate.

Developing scientific standardization, data platforms and new methodologies in this context is an effort that no single organization can undertake alone, given the magnitude of the challenge, the complexity of the organisms, the population effects and the ecosystem. The talk describes some of the challenges such as defining soil health, the ecosystem, the impact of agricultural technologies on the ecosystem and how to address these, including opportunities for collaboration.