

SSS10.5 Session schedule:

14:00-14:05 short introduction

14:05-14:35 D2243 Marta , D2244 Marta , D2227 Ana Iglesias , D2228 Geofrey Soka , D2229 Gilbert Koskey , D2230 Juergen Friedel

14:35-14:40 Open discussion break

14:40-15:05 D2231 Alessia Perego , D2232 Raquel Villena Gordo , D2233 Arpad Horvatz , D2234 Marcus Schmidt , D2235 Alia Gilmullina

15:05-15:10 Open discussion break

15:10-15:40 D2236 Francois Briffaut , D2238 Nikolai Lozbenev , D2239 Marcus Zistl-Schlinmann , D2240 Alina Premrov , D2241 Zhi Jin , D2242 Keisuke Tomioka

15:40-15:45 Open discussion

15:45 – 16:15 Official coffee break

16:15-16:20 short introduction

16:20-16:50 D2245 Alexander Swidinski , D2246 Ana Luisa , D2247 Oka Banaty , D2248 Bibiana Corredor , D2249 Stefan Koch , D2250 Matthew Holden

16:50-16:55 Open discussion break

16:55-17:20 D2251 Annelie Säurich , D2252 Frederic Vanwindekens , D2253 Michael Kuhwald , D2254 Ulrich Weller , D2255 Maria Gmach

17:20-17:25 Open discussion break

17:25-17:50 D2256 Elham Chavoshi , D2257 Luis Garrote , D2258 Jonah Prout , D2259 Byeongchul Lee , D2260 Reet Kamal Tiwari

17:50-18:00 Open discussion

SSS10.5 Session abstract:

Soils provide many essential functions which are indispensable for terrestrial ecosystems and the health of human societies. Beyond the production of biomass these functions are nutrient cycling, filter and buffer for water, climate regulation and habitat for an overwhelming biodiversity.

In view of an increasing pressure on agricultural soils and the need for sustainable soil management all these functions need to be taken into account, especially in organic farming fields. They emerge from complex interactions between physical, chemical and biological processes in soil. This need to be understood and disentangled to predict soil quality and the impact of agricultural soil management on soil functions by the use of indicators and simulation models.

Various international project consortiums are working on related research questions, such as the Soil Security Programme (SSP), BonaRes or LANDMARK. With this session, we aim to bring together the expertise of those and similar projects to combine the gained knowledge and identify still open research gaps for future work.

We seek contributions which (i) enhance our current process understanding of how soil management practices impact one or more soil functions, (ii) show how to quantify soil functions based on suitable proxies or indicators, (iii) present modelling approaches for simulating one or more soil functions, and (iv) demonstrate how soil functions resist and recover from perturbations. Advanced information technologies in modern decision support systems integrated along with large and complex databases, models, tools, and techniques, to improve the decision-making process in soil quality management are also welcome.