

This year's recipient of the Max-Schönleutner-Award for Incoming Scientists

Dr. Rota Wagai

will give a talk on

***Studies on soil organic matter dynamics and organic-mineral aggregation
towards land sustainability***

Wednesday, August 3rd, 2016

4 p.m.

Seminar room 83/84 in the Hans Eisenmann-Zentrum (Liesel-Beckmann-Str. 2, Freising)

Abstract

Soil organic matter (SOM) represents the largest C pool and essential nutrient pool for plants in terrestrial system. SOM is also critical to form porous aggregate structure which controls the diffusion/retention of air and water in plant rooting zone. Thus, better understanding of how environmental perturbations (e.g., climate change, land management) affect SOM is strongly linked to ecosystem functioning and agricultural sustainability.

Here, I plan to present a summary of my studies that explore the linkage between SOM dynamics (driven by microbial activity) and soil aggregate dynamics (driven by abiotic and biotic processes). Using a series of volcanic soils along SOM concentration gradient (due to decadal soil management), I will point out (i) the importance of distinguishing low-density and high-density soil fractions when assessing short-term SOM dynamics, and (ii) how the stability of SOM and its binding with metals change with the management. I hope to end the talk with an emphasis that understanding of the stability of (N-enriched) OM is critical to enhance fertility and thus land sustainability.

Dr. Rota Wagai

Carbon & Nutrient Cycling Division

National Institute for Agro-Environmental Science

Ibaraki, 305-8604, Japan

Email: rota@affrc.go.jp

Web: http://www.niaes.affrc.go.jp/researcher/wagai_r_e.html