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Research Interests

- **Soil degradation and its restoration**
- **Soil structure and its functions in agroecosystem**
- **Soil organic matter accumulation and turnover**

Publication

Legume rhizodeposition promotes nitrogen fixation by soil microbiota under crop diversification, Nature Communications, 2024, DOI: 10.1038/s41467-024-47159-x

Quantifying and visualizing soil macroaggregate pore structure and particulate organic matter in a Vertisol under various straw return practices using X-ray computed tomography, Geoderma, 2024, DOI: 10.1016/j.still.2023.105818

In-situ measuring and predicting dynamics of soil bulk density in a non-rigid soil as affected by tillage practices: Effects of soil subsidence and shrinkage, Soil & Tillage Research, 2023, DOI: 10.1016/j.still.2023.105818

Impacts of straw return coupled with tillage practices on soil organic carbon stock in upland wheat and maize croplands in China: A meta-analysis, Soil & Tillage Research, 2023, DOI: 10.1016/j.still.2023.105786

Integrated aggregate turnover and soil organic carbon sequestration using rare earth oxides and 13C isotope as dual tracers, Geoderma, 2023, DOI: 10.1016/j.geoderma.2022.11631

Impact of calcareous concretions on soil shrinkage of a Vertisol and their relation model development, Geoderma, 2022, DOI: 10.1016/j.geoderma.2022.115892

Bio-tillage: A new perspective for sustainable agriculture,Soil & Tillage Research, 2021,DOI: 10.1016/j.still.2020.104844

Temporal dynamics and vertical distribution of newly-derived carbon from a C3/C4 conversion in an Ultisol after 30-yr fertilization, Geoderma, 2019, DOI: 10.1016/j.geoderma.2018.11.021

Does animal manure application improve soil aggregation? Insights from nine long-term fertilization experiments, Science of Total Environment,2019,DOI: 10.1016/j.scitotenv.2019.01.051

Linking saturated hydraulic conductivity and air permeability to the characteristics of biopores derived from X-ray computed tomography, Journal of Hydrology,2019,DOI: 10.1016/j.jhydrol.2019.01.041