

Profile

Dr. Sangeeta Lenka



Designation: Senior Scientist
Division of Environmental Soil Science

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Research specialization:

Dr. Sangeeta Lenka is a soil scientist and her main research interest is in understanding the mechanisms and drivers of soil organic matter turnover and its response to global environmental changes, use of ^{13}C stable isotopes for native soil organic carbon priming, greenhouse gas emission and mitigation, crop growth simulation modelling, tillage and nutrient interaction, climate change vulnerability and impact assessment and soil aggregate stability.

Professional Experience:

Dr. Sangeeta Lenka has worked extensively towards sustainable soil management systems like conservation tillage and nutrient management. She focuses on carbon and nitrogen cycling in agroecosystem, greenhouse gas fluxes and mitigation from agricultural soils, climate change. Currently she is leading ICAR-NASF project (budget Rs. 190 lakhs) with partner from BCKV, Mohanpur which employs stable carbon isotopes ^{13}C and ^{14}C dating to provide insights into mean residence time of soil organic carbon, soil carbon priming under long-term nutrient management. She is principal investigator of UNDP-GEF-MOEFCC project on "Vulnerability and impact assessment of climate change". She has contributed significantly in capacity building and human resource development by organizing international and national training programmes on "Climate change, Carbon sequestration and Agricultural greenhouse mitigation" for scientific and farming community. She has guided M.Sc students in soil science and agricultural chemistry. She has overseas experience of working two prestigious and renowned laboratories 1) Department of Soil and Crop Sciences, Natural Resource Ecology Lab, Colorado State University, Fort Collins, Colorado, USA under guidance of Professor Keith Paustian 2) Hawkesbury Institute for the Environment, Western Sydney University under guidance of Professor Brajesh Singh

Awards and Honors:

1. Recipient of Dr. J.S.P. Yadav Memorial Award for excellence in soil science-2019 at the 84th Annual Convention of the Indian Society of Soil Science
2. Received certificate of appreciation for her significant achievements in obtaining external funded projects and receiving awards during the year 2018-19 at ICAR-Indian Institute of Soil Science, Bhopal.
3. Endeavour Research Fellowship-2015 at University of Western Sydney, Australia.
4. Young scientist award from Education Expo (EET CRS) 2nd Science and Technology Awards-2014.
5. Bharat Shiksha Ratan Award 2014, by Global Society for Health and Educational Growth, New Delhi.
6. Jawaharlal Nehru Award for Postgraduate Agricultural Research for the year-2007 for outstanding research in the field of soil science, NRM and Agronomy.
7. Soil Conservation Society of India “student fellowship award” for Ph.D dissertation-2006
8. Recipient of Chief Guest R. Chidambaram award for best student in securing highest marks in Remote Sensing and Isotopes in Agriculture in the year 2000.
9. ICAR- Junior Research Fellowship in 1998
10. ICAR-Senior Research Fellowship in 2001

Top Ten publications:

1. Lenka, N.K., **Lenka, S.**, Mahapatra, P., Sharma, N., Kumar, S., Aher, S.B. and Yashona, D.S., 2019. The fate of 15N labeled urea in a soybean-wheat cropping sequence under elevated CO₂ and/or temperature. *Agriculture, Ecosystems & Environment*, 282, pp.23-29.
2. Lenka, N.K., **Lenka, S.**, Singh, K.K., Kumar, A., Aher, S.B., Yashona, D.S., Dey, P., Agrawal, P.K., Biswas, A.K. and Patra, A.K., 2019. Effect of elevated carbon dioxide on growth, nutrient partitioning, and uptake of major nutrients by soybean under varied nitrogen application levels. *Journal of Plant Nutrition and Soil Science*.1-6. doi: 10.1002/jpln.201800488.
3. **Lenka, S.**, Trivedi, P., Singh, B., Singh, B.P., Pendall, E., Bass, A. and Lenka, N.K., 2019. Effect of crop residue addition on soil organic carbon priming as influenced by temperature and soil properties. *Geoderma*, 347, pp.70-79.
4. **Lenka, S.**, Lenka, N.K., Singh, A.B., Singh, B. and Raghuwanshi, J., 2017. Global warming potential and greenhouse gas emission under different soil nutrient management practices in soybean–wheat system of central India. *Environmental Science and Pollution Research*. 24: 4603-4612
5. **Lenka S.**, Lenka N.K., Singh R. C., Raghuwanshi J., Singh R. K., Lakaria B, Manna M. C. 2015. Tillage and manure induced changes in carbon storage and carbon management index in soybean-wheat system of vertisols. *National academy science letter*. 38:461-464
6. **Lenka S.**, Lenka N. K., Singh R. K., Singh R. C., Hati K. M., Lakaria B. L., Raghuwanshi J. 2014. Impact of Conservation Tillage on Soil Aggregation, Cracking and Bypass Flow in vertisols of Central India. *Journal of Indian Society of Soil Science*. 62(3), 189-196.
7. **Lenka S.**, Lenka N.K., Singh R.C., Subba Rao A., Kundu S., Raghuwansi J, Patidar C.P. 2014. Greenhouse gas emission and soil properties as influenced by wheat biomass burning in Vertisols of central India. *Current science*. 107: 1150-1154.
8. Singh R.C., **Lenka S.**, Singh C.D. 2014. Conservation tillage and manure effect on soil aggregation, yield and energy requirement for wheat in vertisols. *Indian Journal of Agricultural Science*.84: 267-271
9. **Lenka S.**, Singh AK. and Lenka NK. 2014. Soil Aggregation and organic carbon as affected by different irrigation and nitrogen levels in maize–wheat cropping system. *Experimental Agriculture*, 50, pp 216-228. doi:10.1017/S0014479713000501.
10. **Lenka S.**, Singh AK., Lenka NK. 2013. Soil water and nitrogen interaction effect on residual soil nitrate and crop nitrogen recovery under maize–wheat cropping system in the semi-arid region of northern India. *Agriculture, Ecosystems and Environment* 179: 108– 115.