

PROFESSOR RATTAN LAL
LIST OF PUBLICATIONS
1967-2026

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2026

Publications:

a) Books Written

1.

b) Books Edited

2. Lal, R. and M Hussain (Ed) 2026?. In Press. Food Is Medicine. Advances in Soil Science, CRC Press, Boca Raton, Florida, USA.
3. Lal, R. and J Lehmann. 2026. Biochar in Soils of the Tropics. Advances in Soil Science, CRC/Taylor, Boca Raton, FL
4. Singh, B. R., Banda, L. J., Safalaoh, A., Mwangwela, A., Haug, R., Eik, L. O., ... & Lal, R. 2026. Sustainable Food Systems in Sub-Saharan Africa, Springer, Cham, Switzerland.
<https://doi.org/10.1007/978-3-032-11288-0>.

g) *Refereed Journal Articles*

5. Bajgai, Y, Lal, R. et al. 2026 (IN PRINT). Assessing impact of conservation agriculture practices on soil physical properties under on-farm conditions in Central Ohio, USA. *Soil Science Society of America Journal*.
6. Bajgai, Y., Lal, R., Demyan, M. S., Lorenz, K., Ogg, A., & Sabah, N. U. 2026. Assessing impact of conservation agriculture practices on soil physical properties under on-farm conditions in Central Ohio, USA. *Soil Science Society of America Journal*, 90, e70183. <https://doi.org/10.1002/saj2.70183>
7. Carducci, B., Lecy, K., Beal, T...Lal, R., et al. 2026. Targets and Benchmarks to Drive Sustainable Food Systems Transformation. *Nature Food*. (IN REVIEW)
8. Gautam, S., Jung, C. G., Mishra, U., Lal, R., Lorenz, K., Tang, J., Presley, D. R., & Franzluebbers, A. J. (2026). Ensemble Agroecosystem Modeling Enhances Predictions of Crop Yields and Soil Carbon Across the United States. *EGUsphere*, 2026, 1–20. <https://doi.org/10.5194/egusphere-2026-1094>
9. Hopkins, B. M., & Lal, R. 2026. Carbon Dioxide Removal by Enhanced Concrete Weathering in Soil. *Total Environment Engineering*, 100068.
10. Lal, R. 2026. Soil carbon sequestration and its role in reducing global carbon footprints: strategies, challenges and policy implications. *Carbon Footprints* 2026, 5, 10. <https://dx.doi.org/10.20517/cf.2025.123>
11. Multer Hopkins, B., Lal, R., et al. 2026?. “Calcium Carbonate Equivalency and Effective Neutralizing Power of Concrete” in ??? (IN PRESS)
12. Munna, M. N. H., & Lal, R. 2026. Long-Term Organic Inputs Effects on Soil Carbon and Nitrogen Sequestration in a Temperate Agroecosystem. *Soil Use and Management*, 42(1), e70161.
13. Munna MNH, Lal R. Impacts of Tillage on Soil’s Physical and Hydraulic Properties in Temperate Agroecosystems. *Sustainability*. 2026; 18(2):1083. <https://doi.org/10.3390/su18021083>
14. Munna, M. N. H., & Lal, R. (2026a). Long-term organic amendments for plant-available water capacity in a temperate no-till system. *Agriculture, Ecosystems & Environment*, 401, 110296. <https://doi.org/10.1016/j.agee.2026.110296>
15. Munna, M. N. H., & Lal, R. (2026b). Long-term organic inputs effects on soil carbon and nitrogen sequestration in a temperate agroecosystem. *Soil Use and Management*, 42, e70161. <https://doi.org/10.1111/sum.70161>
16. Munna, M. N. H., & Lal, R. (2026c). Impacts of tillage on soil’s physical and hydraulic properties in temperate agroecosystems. *Sustainability*, 18(2), 1083. <https://doi.org/10.3390/su18021083>

17. Munna, M. N. H., & Lal, R. (2025). Impacts of cover cropping and organic amendments on soil physical quality under temperate climate. *Cogent Food & Agriculture*, 11, 2467452. <https://doi.org/10.1080/23311932.2025.2467452>
18. Munna, M. N. H., Tanu, F. Z., Mia, S., Shapna, N. A., Hakim, A., & Lal, R. (2025). Reclaiming saline soil by using acid-modified pineapple biochar. *Archives of Agronomy and Soil Science*, 71(1), 1–16. <https://doi.org/10.1080/03650340.2025.2579235>
19. Ye, H., Xu, Y... Lal, R. 2026. Straw Return in Wheat-Maize System Exerts Divergent Effects on Soil-Borne Diseases via a Dual-Pathway Regulatory Mechanism. *Soil and Tillage Research*. IN PROGRESS.

c) *Chapters in Multi-Authored Books*

20. Lal, R. 2026 (IN PRINT). “Feeding the Future Sustainability and the Importance of Soil Protection Policy”. *Soil Degradable Plastics for Sustainable Agriculture: Materials for Soil, Plant and Environmental Protection*, Basque, Spain.
21. Dinesh, K.G., Venkatramanan, V...Lal, R. 2026. “Carbon farming: Ecosystem services and its potential in achieving UN sustainable development goals”. Volume 196. *Advances in Agronomy*. Academic Press, London, U.K.

d) *Invited Keynote Presentations*

22. Lal, R. 2026. The Role of Soil and Land Restoration in Climate Adaptation and Resilience. Presentation at the ICAF 2026 Conference, Djibouti, Africa, 21-23 Jan 2026. Presentation recorded on 9th Jan 2026.
23. Lal, R. 2026. Agriculture in Chile: A Success Story. Presentation at the CONGRESSO FUTURO 2026, Santiago, Chile, 15th Jan. 2026. Virtual presentation.
24. Lal, R. 2026. Sustainable Management of Soil Health and Agriculture for Addressing Global Issues of the 21st Century. SKAUST, Kashmir, Shalimar, Srinagar (J&K), India, 28th Jan to 17th Feb 2026. Presentation recorded on 15th Jan 2026.
25. Lal, R. 2026. Soil and Land for Climate Adaptation and Resilience. Presentation at the ICAF 2026 Conference, Djibouti, Africa, 21-23 Jan 2026. Presentation recorded on 15th Jan 2026.
26. Oruganti, P., Shedekar, V., Hawkins, E., Estadt, M., Lal, R., & Murumkar, A. 2025. *Mapping soil carbon variability under conservation practices with decision support tools to inform a farmer decision-making framework*. Abstract for ASABE, 2026.
27. Lal, R. 2026. From Carbon Stocks to Climate Benefits: Understanding Soil Carbon Sequestration. SCEE Seminar Hall, NUST, Islamabad, Pakistan. 2-10-26. Virtual presentation.
28. Lal, R. 2026. Green energy for mitigating climate change in combination with soil C sequestration and soil health. Panel discussion, Green Jobs and Technology. The World Forum, 17 Feb 2026., Reinhardstr.1, 10117, Berlin, Germany
29. Lal, R. 2026. The Soil-centric Green Revolution for healthy soil, food systems and planetary processes. Keynote presentation, The World Forum. 17 Feb 2026 Reinhardstr.1, 10117, Berlin, Germany.
30. Lal, R. 2026. Success, Challenges, and Opportunities in Indian Agriculture by Managing Soil Health. Virtual Lecture for PAU Ludhiana. 18 Feb 2026. Ludhiana, India.

31. Lal, R. Regenerative Agriculture and the Future of Farming: Promise, Pitfalls, and Politics. Panel, Climate Leadership Conference 2026. Harvard Kennedy School, 20 Feb 2026, Cambridge, Massachusetts, USA.
 32. Lal, R. 2026. Natural Climate Solutions in Agricultural Landscapes. Yale School of Environment, 24th Feb 2026, New Haven, Connecticut, USA.
 33. Lal, R. 2026. Soil Management for Improving Crop and Human Health. XXIX Dokuchaev Conference for Young Scientists “Soils and Human Health”, 2-4 March 2026, St. Petersburg University, St. Petersburg, Russia
 34. Lal, R. 2026. Farming Carbon and Advancing Sustainable Development Goals of the United Nations. Presentation at the University of Florida Series, 27th March 2026, Gainesville, Florida, USA
 35. Lal, R. Farming Carbon for Food and Climate Security While Restoring the Environment, presentation at the National University of Uzbekistan, Tashkent, 13 April 2026.
- e) *Contributory Conference Papers in National and International Symposia*
- f) *Miscellaneous*
36. Lal, R. 2026. What Can We Learn About Soil Management from the Islamic Golden Age? Live Podcast Interview with Melinda McClimans of the Middle East Studies Center at The Ohio State University. 20 January 2026. Columbus, Ohio USA.
 37. Lal, R. 2026. Foreword for field manual on large-scale regenerative agriculture in South America (MERS). 26 Feb 2026, Buenos Aires, Argentina? **(need more info)**
 38. Prichya, Rachnakar. 2025. Rattan Baba Puneryoji of Krishi for Hindi Alphabets. Solidaridad, Bouganvillia Press, Moti Nagar, New Delhi, India
 39. Lal, R. 2026. Podcast on Regenerative Agriculture with the Global Indian Network, moderated by Rajan Nazran, based in U.K., 20th March 2026.

a) *Books Written*

1. Loria, N. and R. Lal. 2025. Carbon Farming: Science and Practice. Springer Nature, Cham, Switzerland. ISBN 978-3-032-00841-1. <https://doi.org/10.1007/978-3-032-00842-8>
2. Lal, R. 2025. The Making of a Soil Scientist: From a Subsistence Farm to the Global Forum. CABI, Wallingford, U.K. pp 218. ISBN 978 1836990130.

b) *Books Edited*c) *Refereed Journal Articles*

3. Adnan, M., Fahad, S., Saleem, M. H., & Lal, R. 2025. Sustainable phosphorus management in calcareous soils: problems and prospects. *Journal of Plant Nutrition*, 48(13), 2179–2200. <https://doi.org/10.1080/01904167.2025.2477269>
4. Andleeb, N., Zafar, S., Rahim, Z., Iqbal, M. M., Lal, R., & Farooq, M. A. 2025. Carbon quantum dots as versatile nanomaterials for improving soil health and plant stress tolerance: a comprehensive review. *Planta*, 262(2), 44. <https://doi.org/10.1007/s00425-025-04758-2>
5. Aziz, A., Tahir, M.A., Sabah, N.U. *et al.* 2025. Effects of coating agents on nitrogen dynamics and yield of wheat (*Triticum aestivum* L.) under irrigated and rainfed conditions. *Sci Rep* 15, 35258. <https://doi.org/10.1038/s41598-025-14121-w>.
6. Bajgai, Y., Adhikari, A., Lal, R., and Wangdi, T. 2025. Organic and conventional management effects on soil organic carbon and macro-nutrients across land uses in the Bhutanese Himalayas. *Soil Systems*. 9. 99. <https://doi.org/10.3390/soilsystems9030099>
7. Basir, A., S. Iqbal, M. Adnan, M.A. Khan, R. Lal, S. Fahad, B. Saeed, M. Ahmad, I. Al-Ashkar, Ç.C. Toprak, Z. Erden and A. El Sabagh. 2025. Integration of compost with mineral NPK fertilizers for improving wheat yield and soil health. *Pak. J. Bot.*, 57(3): DOI: [http://dx.doi.org/10.30848/PJB2025-3\(19\)](http://dx.doi.org/10.30848/PJB2025-3(19))
8. da Silva, B. O. T., A. De Oliveira Ferreira, R. Lal, et al. 2025. “Sixty Years of Sugarcane Monoculture Alters Carbon Preservation in Large Soil Macroaggregates in Tropical Soil.” *Land Degradation & Development*, 36(12): 4056–4067. <https://doi.org/10.1002/ldr.5616>.
9. Ghosh, A., Kumar, S., Kushwaha, B. P., Lal, R., Singh, A. K., Yadav, V. K., & Chandra, A. 2025. Impact of short-term pasture development on soil aggregation, temperature sensitivity of soil organic carbon, and functional diversity in semi-arid ecosystem. *Arid Land Research and Management*, 49(3), 428–454. <https://doi.org/10.1080/15324982.2024.2448948>
10. Han, S. W., Luo, Q., Qin, Z. H., Liu, W. S., Li, H. R., Lal, R., ... & Zhang, H. L. 2025. Aridity Drives the Response of Soil Organic Carbon and Inorganic Carbon to Drought in Cropland. *Global Change Biology*, 31(11), e70622. <https://doi.org/10.1111/gcb.70622>.

11. He, C., Chen, J. S., Han, S. W., Liu, W. S., Liu, W. X., Oladele, O. P., Dang, Y. P., Lal, R., Zhao, X., & Zhang, H. L. 2025. Unraveling carbon mineralization patterns and mechanisms in conservation agriculture: A global synthesis and multi-point experiment. *Journal of Cleaner Production*, 493, 144900. <https://doi.org/10.1016/j.jclepro.2025.144900>
12. Kan, ZR., Li, Z., Amelung, W. *et al.* 2025. Soil carbon accrual and crop production enhanced by sustainable subsoil management. *Nat. Geosci.* 18, 631–638. <https://doi.org/10.1038/s41561-025-01720-5>
13. Karki, S., Lal, R., & Lorenz, K. 2025. Greenhouse gas emissions under conservation agriculture: a synthesis of field observations on integrating conservation tillage and cover crops. *Acta Agriculturae Scandinavica, Section B — Soil & Plant Science*, 75(1). <https://doi.org/10.1080/09064710.2025.2515024>
14. Karki, S., Shrestha, R., Lal, R., Lorenz, K., & Lindsey, L. E. 2025. Effects of biochar and cover crops on physical properties of two soils in Ohio. *Soil Science Society of America Journal*, 89(2), e70041. <https://doi.org/10.1002/saj2.70041>
15. Lal, R. 2025. Balancing Human and Planetary Health Through Plant-Based Diet. *Medical Research Archives*, [S.I.], 13(2). <https://doi.org/10.18103/mra.v13i2.6235>
16. Lal, R. 2025. Managing Soil Health in Africa (MASHA) by Re-carbonization of Its Agroecosystems. *Egyptian Journal of Soil Science*, 65(1), 301-320. <https://doi.org/10.21608/ejss.2024.334426.1913>
17. Lal, R. 2025. Managing South Asia’s nitrogen cycle by restoring soil health and adopting conservation agriculture. *Journal of Soil and Water Conservation*, 80(2), 108–115. <https://doi.org/10.1080/00224561.2025.2496123>
18. Lal, R. 2025. Soil Degradation and Pollution as the Global Public Health Emergency. *Medical Research Archives*, [S.I.], 13(5). <https://doi.org/10.18103/mra.v13i5.6474>
19. Lal, R. 2025. Soil organic matter: The heart of soil health. *Journal of Soil and Water Conservation*, 1–7. <https://doi.org/10.1080/00224561.2025.2572280>.
20. Lal, R. 2025. Transforming Agriculture in Global Drylands by Adopting Negative Emission Technology and Restoring Soil Health. *Egyptian Journal of Soil Science*, 65(4). <https://doi.org/10.21608/ejss.2025.420628.2349>.
21. Lal, R., Uphoff, N., & Bindraban, P. 2025. Precision Agriculture Using IoT and Remote Sensing: Enhancing Productivity and Resource Efficiency. *International Journal of Agriculture Sustainable Farming*, 1(1), pp. 10-14. https://www.agriculturescijournal.com/uploads/archives/20250616144856_3.pdf
22. Liu, W. S., Wei, Y. X., Chen, J. H., Han, S. W., Liu, W. X., Lal, R., ... & Zhang, H. L. 2025. Coupling Effects of Soil Carbon and Nitrogen Mineralization on Crop Growth in Response to Tillage Practices. *Land Degradation & Development*, 0, 1-12. <https://doi.org/10.1002/ldr.70009>
23. Liu, W.-S., Y.-X. Wei, J.-H. Chen, et al. 2025. “Coupling Effects of Soil Carbon and Nitrogen Mineralization on Crop Growth in Response to Tillage Practices.” *Land Degradation & Development* 36(15), 5341–5352. <https://doi.org/10.1002/ldr.70009>.

24. Lorenz, K., Omondi, E., Lal, R., Das, S., & Smith, A. 2025. Soil organic carbon and total nitrogen after 34 years under conventional and organic management practices at the Rodale Institute Farming Systems Trial. *Soil Science Society of America Journal*, 89(1), e14165. <https://doi.org/10.1002/saj2.70000>
25. Munna, M. N. H., & Lal, R. 2025. Impacts of cover cropping and organic amendments on soil physical quality under temperate climate. *Cogent Food & Agriculture*, 11(1). <https://doi.org/10.1080/23311932.2025.2467452>
26. Nakajima, T., Mizumoto, F., Akiyama, M., Gavilan, C., & Lal, R. 2025. Soil organic carbon stock for carbon credit in smallholder farms. *Agrosystems, Geosciences & Environment*, 8, e70025. <https://doi.org/10.1002/agg2.70025>.
27. Pretty, J., Garrity, D., Badola, H. K., Barrett, M., Butler Flora, C., Cameron, C., Grist, N., Hepburn, L., Hilburn, H., Isham, A., Jacobi, E., Lal, R., Lyster, S., Magnason, A. S., McGlade, J., Middendorf, J., Milner-Gulland, E. J., Orr, D., Peck, L., ... Wells, G. 2025. How the Concept of “Regenerative Good Growth” Could Help Increase Public and Policy Engagement and Speed Transitions to Net Zero and Nature Recovery. *Sustainability*, 17(3), Article 3. <https://doi.org/10.3390/su17030849>
28. Priyadarshini, C.; Lal, R.; Yuan, P.; Liu, W.; Adhikari, A.; Bhandari, S.; Xia, Y. 2025. Plant Disease Suppressiveness Enhancement via Soil Health Management. *Biology* 2025, 14, 924. <https://doi.org/10.3390/biology14080924>
29. Sá, J. C. de M., Lal, R., Lorenz, K., Bajgai, Y., Gavilan, C., Ferreira, A. D. O., Briedis, C., Inagaki, T. M., Gonçalves, D. R. P., & Bortoluzzi, J. 2025. Net zero and net negative emissions in brazilian biomes by no-till system. *Science of The Total Environment*, 1004, 180720. <https://doi.org/10.1016/j.scitotenv.2025.180720>.
30. Sá, J. C. M., Lal, R., Lorenz, K., Bajgai, Y., Gavilan, C., Kapoor, M., ... & Bortoluzzi, J. 2025. No-till systems restore soil organic carbon stock in Brazilian biomes and contribute to the climate solution. *Science of The Total Environment*, 977, 179370. <https://doi.org/10.1016/j.scitotenv.2025.179370>
31. Schneider, K.R., Remans, R., Bekele, T.H. *et al.* 2025. Governance and resilience as entry points for transforming food systems in the countdown to 2030. *Nat Food* 6, 105–116. <https://doi.org/10.1038/s43016-024-01109-4>
32. Wilson, N. R., Norman, L. M., Blankinship, J. C., Rathke, S., Showalter, J. S., Diaz, S. F., Lorenz, K., and Lal, R., 2025, Dryland Soil Carbon in Southeast Arizona: U.S. Geological Survey data release, <https://doi.org/10.5066/P1EAZ8BT>.
33. Winowiecki, L. A., Linden, H., Alexander, S., Bargués Tobella, A., Campari, J., Christensen, C., ... & Lal, R. 2025. Multistakeholder Engagement to Scale Soil Health Globally: The Coalition of Action 4 Soil Health. *European Journal of Soil Science*, 76(3), e70128. <https://doi.org/10.1111/ejss.70128>
34. Yang, J., Xia, L., van Groenigen, K. J., Zhao, X., Ti, C., Wang, W., ... Lal, R., ... & Yan, X. 2025. Sustained benefits of long-term biochar application for food security and climate change mitigation. *Proceedings of the National Academy of Sciences*, 122(33), e2509237122. <https://doi.org/10.1073/pnas.2509237122>

35. Zhang, M., Yang, N., Han, X., Lal, R., Huang, T., Dang, P., ... & Siddique, K. H. 2025. Effects of straw returning depth on soil organic carbon sequestration and crop yield in China: A meta-analysis. *Agriculture, Ecosystems & Environment*, 393, 109799. <https://doi.org/10.1016/j.agee.2025.109799>

d) *Chapters in Multi-Authored Books*

36. Lal, R. 2025. "Soil Law: Protection and Restoration of the Finite Resource". International Yearbook of Soil Law and Policy 2025. Cham, Switzerland, Springer Cham. pp 3-17. https://link.springer.com/chapter/10.1007/978-3-032-03251-5_1#DOI.

e) *Invited Keynote Presentations*

37. Lal, R. 2025. Millets for Food and Nutritional Security & Advancing SDGs of the United Nations. Amity University Conference on MilletFusion: Cultivating Sustainability, Nourishing Nations, Amity University, Noida, Uttar Pradesh, India. 22-24th January 2025.
38. Lal, R. 2025. Research Paradigm. Lecture Presented to Examining Paradigms in SENR: Environmental Restoration Sciences. The Ohio State University. Columbus, Ohio, USA. 20th February 2025.
39. Lal, R. 2025. Healthy Soils, Healthy Planet, Healthy People. Watershed Stewards Academy 14th Annual Conference: Spring Into Action, Millersville, MD, USA. 1st March, 2025
40. Lal, R. 2025. Panelist for Webinar "Modelling Crop Yields in Pakistan to Increase Productivity and Reduce Environmental Impact", Amity University, Noida, India/Online, 13th March, 2025.
41. Lal, R. 2025. "Priorities in Soil Sciences and Agronomy for Managing the Terrestrial Carbon Reserves. Lecture to BHU Faculty, students, and scholars from Institute of Agricultural Sciences, Varanasi, Uttar Pradesh, India. 7th April, 2025
42. Lal, R. 2025. Lecture Title. UN Decarbonization Meeting, New York, New York, USA. 16th April, 2025
43. Lal, R. 2025. Agriculture in Africa: The Future Bread-basket of the World. Adaptation of African Agriculture (AAA) Dialogue, Meknes, Morocco, 22nd April, 2025.
44. Lal, R. 2025. Climate Change: Soil Health and Food Security. 2nd International Conference on Climate Change Impacts on Agriculture and Food Security (IC³AF), The University of Swabi, Khyber Pakhtunkhwa, Pakistan. 22nd-24th April 2025.
45. Lal, R. 2025. Global warming and soil carbon farming, National University of Uzbekistan, Tashkent, Uzbekistan, 24 April 2025.
46. Lal, R. 2025. Carbon farming as a transformative regenerative agriculture. Presentation and discussion with faculty and staff of the National University of Uzbekistan, Tashkent, Uzbekistan, 24 April 2025.

47. Lal, R. 2025. Transforming Brazilian Agriculture Into a Model of Green Revolution. Presentation at Sistema FAMATO, Cuiaba, Brazil. 22 May 2025.
48. Lal, R. 2025. **Lecture Title**. Presentation at annual NC 1178 meeting, Knoxville, TN, USA, 2 June 2025.
49. Lal, R. 2025. Carbon Farming and Living Soils of the Americas. Presentation at the 2025 Americas Agriculture and Food Security Forum, Olds College of Agriculture and Technology, Alberta, Canada, organized by IICA, Canada. 16-17 June 2025
50. Lal, R. 2025. Living Soils. Advancing Sustainable Development Goals of America. American Agricultural and Food Security Forum, Edmonton, Canada. Virtual presentation. 17th June 2025
51. Lal, R. 2025. Brazilian Agriculture As a Model of Green Revolution. Presentation at Rio Energy Summit, Rio de Janeiro, Brazil. 24-27 June 2025.
52. Lal, R. 2025. Optimizing energy use and sequestering carbon in land-based sinks for achieving emission negative agro-ecosystems by 2050. Presentation at the Energy Summit, Rio de Janeiro, Brazil, 25 June 2025.
53. Lal., R. 2025. Soil-Centric Regenerative Agriculture for Green Revolution 2.0. Presented at Moldova Academy of Sciences, Chişinău, Moldova, 27 June 2025.
54. Lal, R. 2025. Potential and Opportunities of Regenerative Agriculture. Generation Restoration Dialogue. UNCCD and G20 Global Land Initiative, Communications Bonn, Germany, 11 July 2025. 8AM-9AM EDT.
55. Lal, R. 2025. Regenerative Agriculture and Soil Health. Meeting of the agricultural Federation of the Americas, IICA, San Jose, Costa Rica. 23 July 2025.
56. Lal, R. Innovation in tropical soils for food security, nutrition and ecosystem services. IICA, San Jose, Costa Rica. 29th July 2025.
57. Lal, R. 2025. Innovations in tropical agriculture. IICA/CATIE, Turri Alba, Costa Rica. 30th July 2025.
58. Lal, R. 2025. The Soil-Plant-Human-Planet Health-Nexus. Aapresid Congress 2025. La Rural in Palermo, Autonomous City of Buenos Aires, Argentina, 6th August 2025.
59. Lal, R. 2025. Rejuvenating Soil Health in India by Regenerative Agriculture. Centennial Celebration International Conference on “Evergreen Revolution - The Pathway to Bio-Happiness”. 7-9 August 2025. NASC, New Delhi, India.
60. Lal, R. 2025. Soil Health and Agriculture by Soil Carbon Management. Presentation at the meeting organized at Curukova University. Adana, Turkey. 3rd September 2025.
61. Lal, R. 2025. Soil Science and Global Issues of the 21st Century. Inaugural Plenary Conference, VII Eurosoil & X Congreso Ibérico de la Ciencia del Suelo, Seville, Spain. 8th September 2025.
62. Lal, R. 2025. Soil Health and Global Issues of the 21st Century. Presentation for Eurosoil 2025. Seville, Spain. 8-12 September 2025.

63. Lal, R. 2025. Restoring Soil Health for Advancing Food and Climate Security. Agrico 2025, Bangkok, Thailand. 22nd-23rd September 2025.
64. Lal, R. 2025. Regrounding Climate Solutions: Recentering Soil Carbon in a GHG Focused Era. Ecosystem Services Market Webinar. Columbus, Ohio, USA. 23 September 2025.
65. Lal, R. 2025. Investing in Livelihood. Climate Week Event: TIAA Offices – Pritchett Conference Room. New York, New York, USA. 24 September 2025.
66. Lal, R. Food Supply Security by Managing Global Drylands. The RACCA17 Symposium, The Kyoto International. Columbus, Ohio, USA. Recorded on 4th October 2025.
67. Lal, R. 2025. Soil Carbon Sequestration in Global Arid Lands for Advancing Climate and Food Security. Presentation at Regional Action on Climate Change (RACC) Symposium, 22nd Annual Meeting, Cairo, Egypt. 4-7 October 2025.
68. Lal, R. 2025. The Scientific Nexus of the Problem: Healthy Soils and Regenerative Landscapes. World Economic Forum. Annual Meeting of the Global Future Councils and Cybersecurity, Madinat, Jumeirah, Dubai, UAE. 14-16 October 2025.
69. Lal, R. 2025. Transforming Agriculture Into an Environmental Solution. Global Future Council Meeting, Dubai, UAE. 15th October 2025.
70. Lal, R. 2025. Soil Management as a Global Change Agent. Columbus Council on World Affairs: The World We Want. The Ohio Statehouse, Columbus, Ohio, USA. 16th October 2025.
71. Lal, R. 2025. The soil-centric Green Revolution. Kirkwood College, IA ,USA. WFP Laureate Lecture Series, 20th October, 2025.
72. Lal, R. 2025. “Soil”utions and Global Issues of the 21st Century. Borlaug Dialogue Panel Discussion. Moderated by Sean McMahan, Farmers Edge. Des Moines, IA, USA. 21st October 2025.
73. Lal, R. 2025. Preparing the next generations for regenerative agriculture and innovative food systems. Youth Program, 2025 Borlaug Dialogue, WFP, Des Moines, IA, USA. 22nd October 2025.
74. Lal, R. 2025. Soil Centric Approach for Latin America: The Power-House of Agriculture. Zamarano Workshop, Wooster, OH, USA. 25th October 2025.
75. Lal, R. 2025. Rights-of-Soil. Lecture presented to the ENR 2400 class, Fall Semester, The Ohio State University, Columbus, Ohio USA. 27th October 2025.
76. Lal, R. 2025. Reproducing the Cerrado Miracle in the Global South, IICA Organizational Meeting, Brasilia, Brazil. 3-6 November, 2025.
77. Lal, R. 2025. Latin America as a Power House of Agriculture. IICA Ministerial Meeting, Brasilia, Brazil, 3-5 November 2025.
78. Lal, R. 2025. The 2025 World Soil Day: History and Opportunities. Egyptian Soc. Soil Science. Egyptian Soc. Soil Science, The National Research Center, Dokki, Cairo, Egypt. Recorded on 5th November 2025.

79. Lal, R. 2025. World Soil Day 2025: History and Opportunities. Greetings for the 2025 World Soil Day. Healthy Soils for Healthy Cities. Columbus, Ohio, USA. Recorded on 5th November 2025.
80. Lal, R. Carbon Farming: Harnessing Future Opportunities. Annual meeting of the C-FARM Project. Kaysville Education Center, Kaysville, Utah, USA. 7th November 2025.
81. Lal, R. 2025. Enhancing awareness about the importance of soil to humanity and planet Earth. Presentation at the 2025 World Soil Day, The Islamic University of Bahawalpur, Bahawalpur, Pakistan. Recorded on 10 November 2025.
82. Lal, R. 2025. World Soil Day: Research Priorities in Soil Science for Belize. Presentation to the Ministry of Agriculture for the 2025 World Soil Day. Columbus, Ohio, USA. Recorded on 17 November 2025.
83. Lal, R. 2025. Proposal to Establish Ohio State University Academic Hall of Fame. PPAC Meeting, Mcpherson Lab, The Ohio State University, Columbus, Ohio, USA. Presented on 25th November 2025.
84. Lal, R. Soil Management and Restoration for Sustainable Future of Humanity and Planet Earth. Presentation to International Scientific and Practical Conference “Soils Under Pressure: Degradation, Restoration and Innovations for Sustainable Future”. Columbus, Ohio, USA. 27 November. 2025.
85. Lal, R. 2025. Soil Carbon, Food Security and Planetary Stewardship: Soil-Centric Pathways for a Sustainable Intelligent Earth. 3rd World Conference on Artificial Consciousness and Frontier Forum on Artificial Consciousness, Columbus, Ohio, USA. Recorded on 2nd December 2025.
86. Lal, R. 2025. World Soil Day: Increasing Awareness About the Importance of Soil. Presentation for National University of Uzbekistan at Tashkent on the 2025 World Soil Day. Columbus, Ohio, USA. Recorded on 3rd December 2025.
87. Lal, R. 2025. Regenerative Agriculture and Sustainable Vegetable Oil Supply Chain in India. Solidaridad Multistakeholder Conference, Indore, India. 4th December 2025.
88. Lal, R. 2025. 2025 World Soil Day Celebrations: Healthy Soils for Healthy Cities. Organized by Solidaridad and IISS for Prof. Rattan Lal Award for Excellence in Regenerative Agriculture, Bhopal, India, 5 December 2025. Recorded on 2 December 2025.
89. Lal, R. 2025. Reshaping Perceptions Through Palm Oil Dialogue: Health, Markets, Climate. The Oil Palm Conclave 2025 Organized by Solidaridad, Bhopal, India. 5th December 2025.
90. Lal, R. 2025. Professor Rattan Lal Awards for Excellence in Regenerative Agriculture. Presentation in Honor of 2025 World Soil Day. Bhopal, Madhya Pradesh, India. 5th December 2025.

f) Contributory Conference Papers in National and International Symposia

40. *Miscellaneous*

91. Lal, R. 2025. Healthy Soil for a Healthy Climate. Connections: A Publication of the Universal Peace Federation. 2(2). 22-23.

92. Lal, R. Interview with Jyoti Jankowski at Conscious Planet. Columbus, OH USA. Virtual. 4/11/25.
93. Lal, R. Interview with Jessica Scott-Reid at Sentient Magazine. Columbus, OH USA. Virtual. 5/14/25. <https://sentientmedia.org/regenerative-agriculture-isnt-a-climate-solution/>
94. Lal, R. Interview with Anushka Mukherjee at The Plank Magazine. Nutrition in Soil and Food. Columbus OH, USA. Virtual. 6/4/25.
95. Lal, R. Interview with Terri Dee at Public News Service. Columbus, OH, USA. Virtual. 6/12/25.
96. Lal, R. Interview with Monika Shukla at Humble Bee. Columbus, OH, USA. Virtual. 6/17/25.
97. Lal, R. Interview with Mailen Saluzzio at Aapresid Congress. Columbus, OH, USA Virtual. 19 August 2025.
98. Lal, R. Interview with Miranda Lipton at Anthropocene Magazine. Columbus, OH, USA. Virtual. 29 September 2025.
99. Lal, R. Soil Management for Drought Mitigation in Northwest Ohio. Interview with Michael Rojas for Inside Climate Magazine. Columbus, OH, USA. 17 November 2025.
100. Bajgai, Y. Lal, R., Demyan, S., Lorenz, K., Ogg, A., Us Sabah, N. 2025. On-Farm study of soil physical properties under conservation agriculture in Central Ohio. Poster presentation at OSU Soil Symposium as part of 2025 World Soil Day Celebration, The Ohio State University, Columbus, Ohio, USA. 5 December 2025.

a) Books Written

b) Books Edited

1. El-Beltagy, A., R. Lal, K. Malik (Eds). 2024. Climate Change and Sustainable Agro-ecology in Global Drylands. Centre for Agriculture and Bioscience International. ISBN: 978-1-80062-485-6.

c) Refereed Journal Articles

2. Adhikari, A., Bajgai, Y., Rabgyal, J. *et al.* 2024. Altitude, Land Use and Soil Depth Effects on Earthworm Density and its Relationship to Soil Properties in an On-Farm Study. *J Soil Sci Plant Nutr*, 24, 6569–6583. <https://doi.org/10.1007/s42729-024-01990-9>
3. Ahmad, N., A.L. Virk, A.-S. Nizami, R. Lal, S.X. Chang, *et al.* 2024. Carbon trade-off and energy budgeting under conventional and conservation tillage in a rice-wheat double cropping system. *Journal of Environmental Management*, 351:119888. <https://doi.org/10.1016/j.jenvman.2023.119888>
4. Arunrat, N., Sansupa, C., Sreenonchai, S., Hatano, R., & Lal, R. 2024. Fire-Induced Changes in Soil Properties and Bacterial Communities in Rotational Shifting Cultivation Fields in Northern Thailand. *Biology*, 13(6), 383. <https://doi.org/10.3390/biology13060383> .
5. Cerri C. E. P., Cherubin M. R., Villela J. M., Locatelli J. L., Carvalho M. L., Villarreal F., de Castro Mello F. F., Ibrahim M. A. and Lal R. 2024. Carbon farming in the living soils of the Americas. *Front. Sustain. Food Syst.* 8:1481005. <https://doi.org/10.3389/fsufs.2024.1481005>
6. Cordero-Irizarry, P.M., Lal, R., Sotomayor-Ramírez, D. 2024. Soil Management Affects Soil C and N Stocks but Not Overall Soil Health. *J. Agric. Univ. P.R.* 108(1):13-29. <https://doi.org/10.46429/jaupr.v108i1.21410>
7. Díaz-Sieffer, P., Fontúrbel, F.E., Berasaluce, M., Huenchuleo, C., Lal, R., Mondaca, P., Celis-Diez, J.L. 2024. The market–society–policy nexus in sustainable agriculture. *Environ Dev Sustain* **26**, 29981–30000. <https://doi.org/10.1007/s10668-022-02691-y>
8. Herrick, J.E., Fowler, C., Sibanda, L.M., Lal, R., Nelson, A. M. 2024. The vision for adapted crops and soils: how to prioritize investments to achieve sustainable nutrition for all. *Nat. Plants* 10, 1840–1846. <https://doi.org/10.1038/s41477-024-01867-w>
9. Iqbal A., Khan R., Hussain Q., Imran M., Mo Z., Hua T., Adnan M., Abid I., Rizwana H., Soliman Elshikh M., El Sabagh A., Lal R. and Tang X. 2024. Vermicompost application enhances soil health and plant physiological and antioxidant defense to conferring heavy metals tolerance in fragrant rice. *Front. Sustain. Food Syst.* 8:1418554. <https://doi.org/10.3389/fsufs.2024.1418554>
10. Lal, R. 2024. A historic landmark for the role of soil health in climate and food security: “Soil health” in COP28 UAE Declaration. *Journal Of Soil and Water Conservation* 79(3): 48A-52A. <https://doi.org/10.2489/jswc.2024.0226A>
11. Lal, R. 2024. African Fertilizer and Soil Health Summit: An action plan for food and climate. *Journal Of Soil and Water Conservation* 79(6): 95A-98A. <https://doi.org/10.2489/jswc.2024.0903A>

12. Lal, R. 2024. Enhancing Nutritional Quality of Food by Improved Soil and Crop Management. *Medical Research Archives*; 12(11) <https://doi.org/10.18103/mra.v12i11.5849>
13. Lal, R. 2024. Farming systems for global issues of the 21st Century: Viewpoint, *Farming System*, 2(4), 100113, ISSN 2949-9119, <https://doi.org/10.1016/j.farsys.2024.100113>.
14. Lal, R. 2024. Soil, soul, spirituality, and stewardship. *Journal of Soil and Water Conservation* 79(1):10A-14A. <https://doi.org/10.2489/jswc.2024.1129A>
15. Lal, R. 2024. Soil Degradation Effects on Human Malnutrition and Under-Nutrition. *Medical Research Archives*, 12(10) <https://doi.org/10.18103/mra.v12i10.5753>
16. Loria, N., R. Lal, and R. Chandra. 2024. Handheld In Situ Methods for Soil Organic Carbon Assessment. *Sustainability* 16(13). <https://doi.org/10.3390/su16135592>
17. Multer-Hopkins, B., R. Lal, W. B. Lyons, S. A. Welch. 2024. Carbon capture potential and environmental impact of concrete weathering in soil, *Science of The Total Environment*, Volume 957, 177692, SSSN 0048-9697, <https://doi.org/10.1016/j.scitotenv.2024.177692>.
18. Nandal, A., Yadav, S. S., & Lal, R. 2024. Examining stakeholder attitudes towards tree ecosystem services and disservices in urban environments: insights from Maharshi Dayanand University, Rohtak. *Arboricultural Journal*, 47(2), 104–133. <https://doi.org/10.1080/03071375.2024.2413300>.
19. Nandal, A., S. Rani, S.S. Yadav, N. Kaushik, N. Kataria, et al. 2024. Soil quality under different tree species in an urban university campus: a multidimensional study. *Environmental Earth Sciences* 83(21): 613. <https://doi.org/10.1007/s12665-024-11902-w>
20. de Oliveira Ferreira, A., J. C. de Moraes Sá, R. Lal, G. Barth, T. Massao Inagaki, D. Potma Gonçalves, C. Briedis, A. R. Tomaz, W. R. da Silva. 2024. Why no-till system sequesters more carbon and is more resilient and productive with contrasting fertilization regimes in a highly weathered soil?, *Soil and Tillage Research*, 244. 106179, ISSN 0167-1987, <https://doi.org/10.1016/j.still.2024.106179>.
21. Snapp, S., Chamberlin, J., Winowiecki, L. Amede, T., Aynekulu, E., Gameda, S., Herrick, J. E., Lal, R., Marenja, P., Nagarajan, L., Stewart, Z., Vågen, T. Realizing soil health for food security in Africa. *Nat Sustain* 8, 3–5 2025. <https://doi.org/10.1038/s41893-024-01482-9>.
22. Tomaz, A., A. De Oliveira Ferreira, R. Lal, T. Amado, B. Silva, et al. 2024. Can natural undisturbed revegetation restores soil organic carbon to levels under native climax vegetation under tropical semiarid climate? *Land Degradation and Development* 35(5): 1–11. <https://doi.org/10.1002/ldr.5036>
23. Zhao, X., R. C. Li, W. X. Liu, W. S. Liu, Y. H. Xue, R. H. Sun, Y. X. Wei, Z. Chen, R. Lal, Y. P. Dang, Z. Y. Xu, H. L. Zhang. 2024. Estimation of crop residue production and its contribution to carbon neutrality in China, *Resources, Conservation and Recycling*, 203, 107450, ISSN 0921-3449, <https://doi.org/10.1016/j.resconrec.2024.107450> .

d) Chapters in Multi-Authored Books

24. Bajgai, Y., R. Lal, K. Lorenz. 2024. Chapter Four - On-farm conservation agriculture practices effects on soil health and agronomic productivity in the Midwestern USA, in D. L. Sparks (ed.) *Advances in Agronomy*, Academic Press, 186, p. 173-204, ISSN 0065-2113, ISBN 9780443295287, <https://doi.org/10.1016/bs.agron.2024.02.009>.

25. El-Beltagy, A., R. Lal, K. Malik. 2024. Introduction. In: Climate Change and Sustainable Agro-ecology in Global Drylands. Centre for Agriculture and Bioscience International. p. 1-19. ISBN: 978-1-80062-485-6. <https://doi.org/10.1079/9781800624870.0001>
26. Jayaraman, S., A. Naorem, R.C. Dalal, N.K. Sinha, Ch. S. Rao, R. Lal, S. Kundu, J.V.N.S. Prasad, A.K. Singh . 2024. Chapter Two - No-till farming and climate change mitigation: Lessons learnt from long-term no-till experiments and future perspectives. In: Sparks, D.L. (ed.) Advances in Agronomy. Academic Press. p. 21–107. ISBN: 9780443295300. <https://doi.org/10.1016/bs.agron.2024.05.005>
27. Lal, R. 2024. Managing Soils for Food Security in Central and South Asia. In: Adeel, Z. and Böer, B. (eds.) The Water, Energy, and Food Security Nexus in Asia and the Pacific: Central and South Asia. Springer International Publishing, Cham. p. 31–59. ISBN: 978-3-031-29035-0. https://doi.org/10.1007/978-3-031-29035-0_2
28. Lal, R. 2024. Carbon Farming in Global Drylands. Chapter 3. In: El-Beltagy et al. (Eds), Climate Change and Sustainable Agro-ecology in Global Drylands. Centre for Agriculture and Bioscience International. p. 56-76. ISBN: 978-1-80062-485-6. <https://doi.org/10.1079/9781800624870.0003>
29. Lal, R. 2024. The Day After COP28. In: El-Beltagy et al. (Eds), Climate Change and Sustainable Agro-ecology in Global Drylands. Centre for Agriculture and Bioscience International. p. 354-370. ISBN: 978-1-80062-485-6. <https://doi.org/10.1079/9781800624870.0017>
30. Lal, R. 2024. Chapter 7: Regenerative Farming and Sustainable Diets: Human, Animal, and Planetary Health, in D'Silva, J., & McKenna, C. (Eds.) Regenerative Farming and Sustainable Diets: Human, Animal and Planetary Health (1st ed.). Routledge. Part 2, <https://doi.org/10.4324/9781032684369>
31. Lal, R. 2024. Topic 3. Identification of Appropriate Agro-management Techniques for Different Agro-ecologies. Keynote: Farming Carbon in Global Drylands. pp. 56-59. In A. El-Beltagy & M. C. Saxena (Eds.), Impact of Climate Change on Food Production in the Dry Areas.
32. Meena, R.S., R. Lal, S. Sihag, G. Pradhan, C. Srinivasarao, et al. 2024. Potential of Indian agriculture for capturing atmospheric CO₂ and monetizing carbon credits to the farmers: An overview and policy framework. Chapter 2. In: Advances in Agronomy, vol. 188, pg. 101-206.
33. Sá, J.C.M., T.J.C. Amado, A.O. Ferreira, R. Lal. 2024. Soil Organic Carbon Restoration as the Key Driver to Promote Soil Health in No-Till Systems of the Tropics. Chapter 3. In: Mendes, I.C., M.R. Cherubin. Vol. 3. Soil health and Sustainable Agriculture in Brazil. Wiley, ASA, CSSA, and SSSA Books. ISBN: 978-0-891-18743-1.
34. V. K. Baranwal, R .K. Jain, R. Lal. 2024. Prof. Monkombu Sambasivan Swaminathan August 7, 1925 to 28 September, 2023. Chapter 14, pp. 79-81. In: Prof. M.S. Swaminathan, A Memoir. National Academy of Agricultural Sciences. ISBN: 978-81-931524-7-8.

e) Invited Keynote Presentations

35. Lal, R. 2024. Sustainable Management of Soil Health and Agriculture for Addressing Global Issues of 21st Century. 2024 Winter Enrichment Program, KAUST, Jeddah, Saudi Arabia. 9th January, 2024.

36. Lal, R. 2024. **Lecture Title**. International Climate Talk with the Science Museum Group. Science Museum UK Climate Talks, London, United Kingdom. 24th January 2024.
37. Lal, R. 2024. Neglected and Under-Utilized Crop Species for Food and Climate Security. ICARDA, AgMIP and UM6P Conference on NUS in the MENA Region, ICARDA, Rabat, Morocco. 5-6 February 2024.
38. Lal, R. 2024. Managing Soil Functions Under Changing Climate for Achieving Right to Culturally Desirable, Adequate, Safe, and Nutritious Food. Int. Conference on “Food Justice from a Human Rights Perspective: Challenges of Reality and Future Stakes”, Doha, Qatar. 6-7 February 2024.
39. Lal, R. 2024. Soil Carbon Farming. Bottom Line Ag Summit: The Currency of Carbon, Bismarck, South Dakota, USA. 21st February 2024.
40. Lal, R. 2024. Managing Soil Health for Advancing Food and Nutritional Security. 20th International Congress of Soil Science, Soil Science Society of Pakistan and Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan. 20-22nd February 2024.
41. Lal, R. 2024. Managing Soils to Mitigate Abiotic Stresses on Crops for Enhancing Productivity and Environmental Sustainability. Natl. Conference on Novel Strategies for Mitigating Biotic and Abiotic Stresses on Crops: ICAR/NISBM & Amity University, Raipur, Chhattisgarh. India, 28-29th February 2024.
42. Lal, R. 2024. Agriculture, Food Security, Soil Health and Global Warming. Public Lecture at the Academy of Sciences of Moldova, Chişinău, Moldova. 5th March 2024.
43. Lal, R. 2024. Reducing Emissions and Sequestering Carbon in India’s Dairy Farms. Mr. Verghese Kurien Commemoration Speech, 50th Dairy Industry Conf., Hyderabad, India. 4-6th March 2024.
44. Lal, R. 2024. Sustainable Agriculture and Soil Management for Climate and Food Security. Ellis Lecture I for faculty, Kansas State University, Manhattan, Kansas, USA. 26-27th March 2024.
45. Lal, R. 2024. Soil and the Global Carbon Cycle. Ellis Lecture II for graduate students, Kansas State University, Manhattan, Kansas, USA. 26-27th March 2024.
46. Lal, R. 2024. Why Carbon Farming? Co-PIs Annual Conference, Kansas State University, Manhattan, Kansas, USA. 27-28th March 2024.
47. Lal, R. 2024. Issues and Comments in C-Farming. C-Farming Workshop, Kansas State University, Manhattan, Kansas, USA. 28th March 2024.
48. Lal, R. 2024. Carbon Farming: A New Crop. Carbon Academy: Extension Workshop, Waterman Agricultural and Natural Resources Laboratory, The Ohio State University, Columbus, Ohio, USA. 10th April 2024
49. Lal, R. 2024. Managing Soil Health in Africa: Scaling Up by Carbon Farming Funds. 2024 AAA Annual Ministerial Conference, “Scaling Up Climate Finance for Agricultural Adaptation in Africa: A Strategic Dialogue: IAV Hassan II. Rabat, Morocco. 18th April 2024.
50. Lal, R. 2024. Sustainable Agriculture in Global Dryland. Workshop Sustainable Agriculture, Rabat, Morocco. 18th April 2024.

51. Lal, R. 2024. Importance of Managing Soil Health in Africa. 4th Annual Ministerial Conference, “Innovative Financing to Accelerate Adaptation of African Agriculture to Climate Change”. Meknes, Morocco. 22nd April 2024.
52. Lal, R. 2024. Transforming Africa and Latin America into the Bread-Basket of the World by South-South Cooperation. ‘Living Soils Initiative’ in Africa: IICA/AGRA/Lal C Center, San Jose, Costa Rica. 2nd May 2024.
53. Lal, R. 2024. Transforming Africa to Bread-Basket of World. UM6P Roundtable Conference, Ben Guerir, Morocco. 3rd May 2024.
54. Lal, R. 2024. Transforming India’s Agroecosystems for Food, Nutrition, and Climate Security. National Conference ‘EFFECT - Efficient Food-Processing for Environment and Climate-Changing Trends’, NASC, ICAR, New Delhi, India. 15th-16th May 2024.
55. Lal, R. 2024. Insight into Soil Health in Africa and Globally. Soil Matters: Cultivating Change for Africa’s Food Systems Transformation through Evidence-based Policy and Practice. Kenyatta International Convention Center, Nairobi, Kenya. 8th May 2024.
56. Lal, R. 2024. Global Environmental and Food Security: Importance of Agriculture. IICA Chair in Soil Science, and Goodwill Ambassador for Sustainable Development Issues. G20 Meeting in Brasilia, Brazil. 15th May 2024.
57. Lal, R. 2024. Understanding the Global Carbon Cycle for Managing Soil Organic Matter Content. SOM 2024, UM6P, Ben Guerir, Morocco. 27-30 May 2024.
58. Lal, R. 2024. Soil Health in Relation to Agrifood Systems Sustainability. 31st Dr. B. P. Pal Memorial Lecture, IARI, New Delhi, India. 29th May 2024.
59. Lal, R. 2024. Importance of “Vision for Adapted Crops and Soils” (VACS) in Guatemala and the LAC region. IICA event at the OAS Main Building, 200 17th Street NW, Washington D.C., USA. 3rd June 2024.
60. Lal, R. 2024. Managing Soil Health in Africa: Food, Climate, and Water Security. OCP Side Event during GSP Meeting, FAO, Rome, Italy. 4th June 2024.
61. Lal, R. 2024. Soil Health and Food Security in Africa. “Future Proofing Unified Action for Soil Health and Food Security”, IFPRI, Washington, D.C., USA. 4th June 2024.
62. Lal, R. 2024. U.S./China Synergy to Enhance Global Food Security. U.S. Heartland China Association: Think Tank Dialogue. Beijing, China. 12th June 2024.
63. Lal, R. 2024. Addressing the Problem of Land Degradation: Soil, Spirituality, and Stewardship. Environmental Summit by Hyo Jeong International Foundation for Environmental Peace, Washington, D.C., USA. 15th June 2024.
64. Lal, R. 2024. Spirituality/Morality in Solving Environmental Issues. Uniting Intelligence with Conscience for Global Solutions, Professors World Peace Academy, Los Angeles, California, USA. 22nd June 2024.
65. Lal, R. 2024. Managing Soil Health to Improve Human Health and Wellbeing. Presented at Coalition Health and Regenerative Agriculture Webinar. Online. 24th June 2024.

66. Lal, R. 2024. Global Value of Carbon in Soil. Symposium on Mobile Inelastic Neutron Scattering in Soil, Auburn, Alabama, USA. 27th June 2024.
67. Lal, R. 2024. Soil and Ecosystem Services. Japanese Media Interview with NHK Broadcasting Corporation, Tokyo, Japan. 1st July 2024.
68. Lal, R. 2024. Soil the Global Connector. USDA International Fellows Training Program. Online. 5th July 2024.
69. Lal, R. 2024. Carbon Farming as the Pathway for Ecosystem Services and Nature-Positive Agriculture. Keynote Presentation, Brazilian No-Till Federation. Belo Horizonte, Minas Gerais, Brazil. 7th July 2024.
70. Lal, R. 2024. Thanks and appreciation to Calouste Gulbenkian Foundation for the 2024 Gulbenkian Award, Lisbon, Portugal. 11th July 2024.
71. Lal, R. 2024. Sustainable Soil Management and Agriculture: Opportunities and Challenges. Calouste Gulbenkian Foundation Lecture, Lisbon, Portugal. 12th July 2024.
72. Lal, R. 2024. Eco-Intensification of Agriculture for Producing More From Less. INTAGRI, Mexican Society of Soil Science, Guadalajara, Mexico. 10-11th July 2024.
73. Lal, R. 2024. Soil, Security, and Climate Change. College of Post Graduate Studies, Montecillo, Mexico. 11th July 2024.
74. Lal, R. 2024. Green Revolution in Mexico: The Borlaug Effect. 80th Anniversary of Dr. Norman Borlaug Arrival in Mexico, CIMMYT, El Batán, Mexico. 11th July 2024.
75. Lal, R. 2024. Managing Soil Health for Carbon Sequestration and Water Conservation. Midwestern Legislative Conference, Hyatt Regency Hotel. Columbus, Ohio, USA. 21st July 2024.
76. Lal, R. 2024. Managing Soil Health by Regenerative Agriculture. Copeval Soil Health Webinar, Online, Chile. 24th July 2024.
77. Lal, R. 2024. Managing Tropical Agriculture in Sustainable Agri-Food Systems for Food and Climate Security. Rio-Agro Presentation, Rio de Janeiro, Brazil. 30th July 2024.
78. Lal, R. 2024. Carbon Farming and Global Issues. Rio-Agro Presentation, Rio de Janeiro, Brazil. 30th July 2024.
79. Lal, R. 2024. Soil Health as a Solution to Climate and Food Crisis. Aapresid Congress, Buenos Aires, Argentina., 7th August 2024.
80. Lal, R. 2024. Climate Resilient Food Systems and Carbon Agriculture. Aapresid Congress, Buenos Aires, Argentina. 8th August 2024.
81. Lal, R. 2024. Guru Kashi University Annual Award and Inaugural Function. Talwandi Sabo, Bathinda, India. 29th August 2024.
82. Lal, R. 2024. Soil Health and SDGs. Soil Health Dialogue Event, International Soil Carbon Industry Alliance. Online. 4th September 2024.

83. Lal, R. 2024. Basic Laws of Sustainable Soil Management. Academy of Sciences of Moldova, Chişinău, Moldova. 5th September 2024.
84. Lal, R. 2024. Cooperation with National Academy of Sciences of Moldova, Chişinău, Moldova. 5th September 2024.
85. Lal, R. 2024. Soil Health and Ecosystem Services. UNEP/UNESCO/BMUV International Short Course – Optimizing Soil Health for Enhanced Ecosystem Services through Nature-Based Solutions (SC90), Potsdam, TUD, Germany. 9th September 2024.
86. Lal, R. 2024. Managing Dryland Agriculture for Global Climate and Food Security. Pre-COP29 Conference, University of Alexandria, Alexandria, Egypt. 10-11th September 2024.
87. Lal, R. 2024. Soil Health for Agronomic Productivity and SDGs. United Nations 79th General Assembly (UNGA79) Workshop: Exploring the Nexus of Soil Health, Diversified Crops, and Agricultural Productivity for Achieving the Sustainable Development Goals, UNGA, New York, New York, USA. 18th September 2024.
88. Lal, R. 2024. Innovations in Research, Education, and Outreach to Transform Agriculture in India. VAKSANA-2024, National Conference on the theme: Innovations in Agriculture and Outreach Programs: Challenges and Opportunities. Indore, Punjab, India. 20th September 2024.
89. Lal, R. 2024. Framework for Better Food Security at the Interaction of Climate, Land Degradation and Biodiversity. Panelist at the Session “Harvesting Resilience, UNGA -Agriculture: The Vision for Adapted Crops and Soils (VACS): Improving Food Security at the Nexus of Climate, Land Degradation and Biodiversity, Business Council for International Understanding (BCIU), River Club, New York, New York, USA. 23rd September 2024.
90. Lal, R. 2024. Sustainable Soil Management and Agriculture as a Part of the Solution to Adaptation and Mitigation of Climate Change. NAPA Webinar and Panel Discussion: NAPA Webinar Series #41, Online. 29th September 2024.
91. Lal, R. 2024. Sustainable Soil Management for Food and Climate Security. WAFI 2024 Conference. CAU, Beijing, China. 9-12th October 2024.
92. Lal, R. 2024. Opening Remarks at “Generating Soil Evidence to Inform Policy” virtual event hosted by CA4SH, CIFOR-ICRAF, and IFDC during the WFP Foundation 2024 Borlaug Dialogue, Des Moines, Iowa, USA. 23rd October 2024.
93. Lal, R. 2024. Management of Soil, Carbon, and Water for Addressing Global Issues of the 21st Century. FDC, Villa Olímpia, São Paulo, Brazil. 24th October 2024.
94. Lal, R. 2024. The World’s Energy and Environmental Food Insecurity and Brazil’s Role. 10th National Congress of Agribusiness Women, São Paulo, Brazil. 24th October 2024.
95. Lal, R. 2024. Potential of Carbon Farming to Advance Sustainable Development Goals. Carbon Farming Workshop Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shalimar Campus, Srinagar, Jammu and Kashmir, India. 6th November 2024.
96. Lal, R. 2024. Recarbonization of Agricultural Soils and Decarbonization of Agrifood Systems. Instituto Interamericano de Cooperación para la Agricultura (IICA) Representación México/CIMMYT/FIRA, Mexico City, Mexico. 6th November, 2024.

97. Lal, R. 2024. Nature-based solutions and financial commitments for the LAC Region. IICA Pavillion, COP29, Baku, Azerbaijan. November 11th, 2024.
98. Lal, R. 2024. Addressing the climate crisis in the Caribbean region. IICA Pavillion, COP29, Baku, Azerbaijan. November 13th, 2024.
99. Lal, R. 2024. Mitigating N₂O emissions by bio-inputs and biological N fixation. FAO/CGIAR Pavillion, COP29, Baku, Azerbaijan. November 14th, 2024.
100. Lal, R. 2024. Challenges to be addressed for commodification of C in land-based sinks. FAO/CGIAR Pavillion, Baku, Azerbaijan. November 14th, 2024.
101. Lal, R. 2024. Living Soils of America (LiSAM): Opportunities and Challenges. IICA Pavillion, Baku, Azerbaijan. November 15th, 2024.
102. Lal, R. 2024. Future of Land: Policy Considerations for Translating Science into Action. IICA Pavillion, Baku, Azerbaijan. November 15th, 2024.
103. Lal, R. 2024. The role of CA4SH in harnessing the land-based C sinks. COP29, Baku, Azerbaijan. 15th November 2024.
104. Lal, R. 2024. MASTI: Managing Soil for Transforming India. Presentation for the GSC 24 Conference, New Delhi, India. 22nd November 2024.
105. Lal, R. 2024. Improving Fertilizer Use Efficiency in India. Presentation for IFDC Side Event at GSC 24 Conference, New Delhi, India. 22nd November 2024.
106. Lal, R. 2024. Role of Private Sector in Carbon Farming. Bayer Carbon Science Talks, Campinas, São Paulo, Brazil. 26th November 2024.
107. Lal, R. 2024. World Soil Day Celebrations of the UNCCD, World Soil Day. Riyadh, Saudi Arabia. 5th December 2024.
108. Lal, R. 2024. The World Soil Day: Perseverance, Opportunities, and Challenges. World Soil Day IFDC – India. Online. 5th December 2024.
109. Lal, R. 2024. LiSAM as the Pathway to Nature-Positive Agriculture. IICA-Canada and UNCCD Presentation for World Soil Day. Ottawa, Ontario, Canada. 5th December 2024.
110. Lal, R. 2024. India Agriculture: A Global Success Story. IISS, Bhopal, World Soil Day, Bhopal, Madhya Pradesh, India. 5th December 2024.
111. Lal, R. 2024. Importance of Soil Management for Improving Agronomic Production. Solidaridad, IISS, Bhopal, Madhya Pradesh, India. 5th December 2024.
112. Lal, R. 2024. Soil Health and Global Issues. IISS, Bhopal WSD, Bhopal, Madhya Pradesh, India. 5th December 2024.
113. Lal, R. 2024. Managing Soil Health in India: Challenges & Opportunity. WB/WSS/IISS, Bhopal, Madhya Pradesh, India. 5th December 2024.
114. Lal, R. 2024. Soil Centric Green Revolution for Transforming India. IARI/TAAS Seminar, New Delhi, India, 11th December 2024.

f) Miscellaneous

115. Ding, J., R. Chandra, R. Lal, and L. Tassiulas. 2024. Scarf: Soil Carbon Sensing with Wi-Fi and Optical Signals. Proceedings of the 30th Annual International Conference on Mobile Computing and Networking. Association for Computing Machinery, New York, NY, USA. p. 1653–1655. <https://doi.org/10.1145/3636534.3697449>
116. Hopkins BM, Lal R, Lyons WB, Welch SA. Environmental Impacts of Concrete Weathering in Soil. In ASA, CSSA, SSSA International Annual Meeting, 11 November 2024. ASA-CSSA-SSSA.
117. Lal, R. 2024. Foreword in Sweta Mishra, S. Kumar and R.C. Srivastava (Eds) “Genetic Improvement of Small Millets”, Springer Nature, Singapore, ISBN: 978-981-99-7231-9; pg. v-vi
118. Lal, R. 2024. Unleashing AI: Revolutionizing 21st Century Agriculture. *Agriculture World (April 2024 Edition)*, pp. 10-13. <https://agricultureworld.co/april-2024/>.
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120. Wyatt, B., Hatfield, J., Wacha, K., Lal, R., Arenas, A., Birge, H., Schnitkey, G., “Soil Health and the Hydrologic Cycle”. Council for Agricultural Science and Technology Issue Paper. 76. <https://doi.org/10.62300/QEOG5785>

a) Books Written

1. Lorenz, K. and Lal, R., 2023. *Organic Agriculture and Climate Change*. Springer Nature ISBN:978-3-031- 172144, 232pp. <https://doi.org/10.1007/978-3-031-17215-1>

b) Books Edited

2. Jayaraman, S., R.C. Dalal and R. Lal (eds) 2023. *Sustainable Soil Management: Beyond Food Production*. Cambridge Scholars Publishing, Newcastle, UK. ISBN 13: 978-1-5275-0204-8, pp 350.
3. Lal, R. (Ed) 2023. *Soil and Drought: Basic Processes*. CRC Press, Boca Raton, Florida. ISBN: 9781032286747, pp 306.

c) Refereed Journal Articles

4. Bridges K.M., S. Das, H. Neikirk, R. Lal. 2023. Influence of manure and tillage on soil carbon and soil organic matter in silt loam soils of corn–soybean–forage systems. *J Sustain Agric Environ*. 2023; 2: 337–345. <https://doi.org/10.1002/sae2.12064>.
5. Briedis, C., Sá, J.C.M., Lal, R. de Oliveira Ferreira, A., Cezar Franchini, J.C., Milori, D.M.B.P. 2023. Preservation of labile organic compounds is the pathway for carbon storage in a 23-year continuous no-till system on a Ferralsol in southern Brazil, *Geoderma Regional*, 33, e00643, ISSN 2352-0094, <https://doi.org/10.1016/j.geodrs.2023.e00643>.
6. Das, S., A. Das, R. Idapuganti, J. Layek, D. Thakuria, D. Sarkar, I. Bhupenendra, R. Lal, S. Chowdhury, S. Babu, K. Debbarma. 2023. Liming and micronutrient application improves soil properties and productivity of the groundnut-rapeseed cropping system in an acidic Inceptisol of India's eastern Himalayas. *Land Degradation & Development* 34(12): 3681-3699. <https://doi.org/10.1002/ldr.4713>.
7. Huang, Y., B. Tao, R. Lal, K. Lorenz, P. A. Jacinthe, R. K. Shrestha, X. Bai, M. P. Singh, L. E. Lindsey, W. Ren, A global synthesis of biochar's sustainability in climate-smart agriculture - Evidence from field and laboratory experiments, *Renewable and Sustainable Energy Reviews* 172, 113042, ISSN 1364-0321, <https://doi.org/10.1016/j.rser.2022.113042>.
8. Idapuganti, R. G., Das, A., Sungoh, H., Layek, J., Mandal, S., Verma, B. C., Lal, R., Rangappa, K., Babu, S., & Hazarika, S. 2024. Can biochar conserve soil moisture and improve soil properties for sustainable intensification of acid soils in the Eastern Indian Himalayas? *Land Degradation & Development* 35(3), 1192–208. <https://doi.org/10.1002/ldr.4981>.
9. Kissel, D.E., J.W. Gaskin, M.L. Cabrera, B.R. Bock, and R. Lal. 2023. Agriculture as part of the solution to climate change: Incentivizing the adoption of no-till and cover crops. *Journal of Soil and Water Conservation* 78(5): 103A-104A. doi: [10.2489/jswc.2023.0620A](https://doi.org/10.2489/jswc.2023.0620A).
10. Kolganova, A., Lal, R., and Ferkins, J. 2023. Biochar's electrochemical properties impact on methanogenesis: Ruminant vs Soil Processes. *J. Agric. Chemistry and Env.* 12(1): 28-43, Feb 2, 2023. doi: [10.4236/jacen.2023.121003](https://doi.org/10.4236/jacen.2023.121003)

11. Lal, R. 2023. Agriculture in the North Western Sahara Aquifer System: A miracle in the making? *Journal of Soil and Water Conservation* 78(3): 57A-62A. doi: [10.2489/jswc.2023.0106A](https://doi.org/10.2489/jswc.2023.0106A).
12. Lal, R. 2023. Carbon farming by recarbonization of agroecosystems. *Pedosphere* 33(5): 676–679. doi: [10.1016/j.pedsph.2023.07.024](https://doi.org/10.1016/j.pedsph.2023.07.024).
13. Lal, R. 2023. Farming systems to return land for nature: It's all about soil health and re-carbonization of the terrestrial biosphere. *Farming System* 1(1): 100002. doi: [10.1016/j.farsys.2023.100002](https://doi.org/10.1016/j.farsys.2023.100002).
14. Lal, R. 2023. Restoring South Asia's degraded soils and ecosystems for peace and prosperity. *Journal of Soil and Water Conservation* 78(5): 97A-102A. doi: [10.2489/jswc.2023.0327A](https://doi.org/10.2489/jswc.2023.0327A).
15. Layek, J., and R. Lal. 2023. Long-Term Effects of Single Application of Biochar on Physical and Hydrological Properties of Crosby Silt Loam Soil in Central Ohio, USA. *Journal of Soil Science and Plant Nutrition* 23, p. 5013-5025. doi: <https://doi.org/10.1007/s42729-023-01533-8>
16. Layek, J., A. Das, V.K. Mishra, R. Lal, R. Krishnappa, et al. 2023. Improved agronomic practices and high yielding rice varieties maintain soil health and enhance yield and energy use efficiency under shifting cultivation landscapes of eastern Himalayas. *Land Degradation & Development* 34(15). P. 4751-4767. doi: <https://doi.org/10.1002/ldr.4807>
17. Lin, B., R. Li, K. Liu, O. Oladele, Z. Xu, et al. 2023. Management-induced changes in soil organic carbon and related crop yield dynamics in China's cropland. *Global Change Biology* 29(13): 3575–3590. doi: [10.1111/gcb.16703](https://doi.org/10.1111/gcb.16703).
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21. Moonilall, N.I., K.A. Sklenka, M.A. Nocco, and R. Lal. 2023. Rehabilitative capacity of amendments to restore maize productivity following artificial topsoil erosion/ deposition. *Field Crops Research* Volume 304, 109178, ISSN 0378-4290, <https://doi.org/10.1016/j.fcr.2023.109178>.
22. Nandal, A., S. Yadav, A. Rao, R. Meena, and R. Lal. 2023. Advance methodological approaches for carbon stock estimation in forest ecosystems. *Environmental Monitoring and Assessment* 195(2), 315. doi: [10.1007/s10661-022-10898-9](https://doi.org/10.1007/s10661-022-10898-9).
23. Naorem, A., Jayaraman, S., Sinha, N. K., Mohanty, M., Chaudhary, R. S., Hati, K. M., ... & Lal, R. 2023. Eight-year impacts of conservation agriculture on soil quality, carbon storage, and carbon emission footprint. *Soil and Tillage Research*, 232, 105748. <https://doi.org/10.1016/j.still.2023.105748>

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25. Reddy, S.B., C. Srinivasarao, P. Rao, R. Lal, S. Rakesh, et al. 2023. Greenhouse gases emissions and agronomic productivity as influenced by varying levels of N fertilizer and tank silt in degraded semiarid Alfisol of Southern India. *LAND DEGRADATION & DEVELOPMENT* 34(4): 943–955. doi: [10.1002/ldr.4507](https://doi.org/10.1002/ldr.4507).
26. Reicosky, D., D. Brandt, R. Reeder, R.Lal, and D.R. Montgomery. 2023. Plowing: Dust storms, Conservation Agriculture, and need for a “Soil Health Act.” *Journal of Soil and Water Conservation* 78(5): 105A-108A. doi: [10.2489/jswc.2023.0619A](https://doi.org/10.2489/jswc.2023.0619A).
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28. Shrestha, R.K., P.A. Jacinthe, R. Lal, K. Lorenz, M.P. Singh, et al. 2023. Biochar as a negative emission technology: A synthesis of field research on greenhouse gas emissions. *Journal of Environmental Quality* 52(4): 769-798. doi: [10.1002/jeq2.20475](https://doi.org/10.1002/jeq2.20475).
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d) Chapters in Multi-Authored Books

32. DeClerck, F.A.J., Koziell, I., Benton, T., Garibaldi, L. A., Kremen, C., Maron, M., Rumbaitis Del Rio, C., Sidhu, A., Wirths, J., Clark, M., Dickens, C., Estrada Carmona, N., Fremier, A. K., Jones, S. K., Khoury, C. K., Lal, R., et al. 2023. A Whole Earth Approach to Nature-Positive Food: Biodiversity and Agriculture. In: von Braun, J., Afsana, K., Fresco, L.O., Hassan, M.H.A. (eds) *Science and Innovations for Food Systems Transformation*. Springer, Cham. <https://doi.org/10.1007/978-3-031-15703-5>
33. Jayaraman, S., R.C. Dalal, and R. Lal. 2023. Conclusions: Perspective on Sustainable Soil Management. Chapter 12. In: J. Somasundran et al. (eds) “Sustainable Soil Management: Beyond Food Production,” Cambridge Scholars Publishing, New Castle Upon Tyne, U.K., pp 322-335. ISBN: 1-5275-0204-X
34. Jayaraman, S., R.C. Dalal, A.K. Patra and R. Lal. 2023. Soil Sustainable Management: Challenges, Prospects and Benefits. Chapter 1. In: J. Somasundran et al. (eds) “Sustainable

Soil Management: Beyond Food Production,” Cambridge Scholars Publishing, New Castle Upon Tyne, U.K., pp 1-22. ISBN: 1-5275-0204-X

35. Lal, R. 2023. Chapter 1: Drought Hazard to Dryland Farming in Arid Region, In: R. Lal (Ed.) Soil and Drought: Basic Processes (1st ed.). CRC Press, Boca Raton, Florida. pp. 1-10.
<https://doi.org/10.1201/b22954>
36. Srinivasarao, Ch., S. Rakesh, G. R. Kumar, M. Jagadesh, K.C. Nataraj, R. Manasa, S. Kundu, S. Malleswari, K.V. Rao, J.V.N.S. Prasad, R.S. Meena, G. Venkatesh, P.C. Abhilash, J. Somasundaram, and Lal, R. 2023. Chapter 10: Improving Water Storage through Effective Soil Organic Matter Management Strategies under Dryland Farming in India, In: R. Lal (Ed.) Soil and Drought: Basic Processes (1st ed.). CRC Press, Boca Raton, Florida. pp. 257-284.
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e) Invited Keynote Presentations

37. Lal, R. 2023. Managing soil health for environmental and climate security in the Latin American and Caribbean Region. Congresso Futuro, Public Relations Team, Morande 441, Santiago, Chile, 4th January 2023.
38. Lal, R. 2023. Regenerative agriculture on global scale for people and the planet. Future Harvest Conference Keynote, The Chesapeake Alliance for Sustainable Agriculture, College Park, Maryland, USA. 12-14 January 2023.
39. Lal, R. 2023. Saving our Vanishing Soils: Global perspective. The City Gardens Club of New York City, Annual Environmental Forum, New York, New York, USA. 19th January 2023.
40. Lal, R. 2023. Managing soil health for food and climate security. Global Forum for Food and Agriculture (GFFA), World Food Program (WFP), Berlin, Germany. 20th January 2023.
41. Lal, R. 2023. Soil, Climate, Water Issues: Addressing the global and Indian scenarios. Walmi, Dharwad Conference, Department of Water Resources, Kunatka, India, 23 January 2023.
42. Lal, R. 2023. Managing ecological footprint of food systems. Carbon Footprints, Journal Editorial office, Beijing, China. 2nd February 2023.
43. Lal, R. 2023. Ecological footprint of food and agriculture systems. Carbon Footprints, Journal Educational office, Beijing, China. 2nd February 2023.
44. Lal, R. 2023. Pulses for sustainable agriculture in era of climate change. Plenary Lecture, ICU Pulses 2023 Conference. ICAR, New Delhi, India. 11th February 2023.
45. Lal, R. 2023. Soil and ecological degradation in Indo-Gangetic Plains. 1st Int. Conf. About Cop-27 Climate Change and Food Security. Pir Mehr Ali Shah Arid Agricultural University, Rawalpindi, Pakistan. 15th February 2023.
46. Lal, R. 2023. Translating science of soil carbon into action through cooperation with private sector. SSSA/SSSC Symposium, Nanjing, China. 22nd February 2023.
47. Lal, R. 2023. Climate farming for climate and food security. National Center for Appropriate Technology. Butte, Montana, USA. 28th February 2023.

48. Lal, R. 2023. Soil health and how to work with the soil to unlock its true potential. Agri-Insider Business Group, Offaly, Ireland. 28th February 2023.
49. Lal, R. 2023. Managing soil health for adaptation to and mitigation of climate change. California climate change webinar, Online, California. USA. 2nd March 2023.
50. Lal, R. 2023. Isotopes in soil sciences research. Stable Isotope Biogeochemistry Class (EARTHSC 5622), Mendenhall Lab, The Ohio State University, Columbus, Ohio, USA. 7th March 2023.
51. Lal, R. 2023. Importance of sustainable soils for the future of humanity. Academy of Sciences of Moldova/NATIONS, Online, Chişinău, Moldova 13 March 2023.
52. Lal, R. 2023. Processes, factors and causes of soil and ecological degradation in Pakistan, International conference on soil pollution and remediation, Forman Christian College University, Lahore, Pakistan. 16 March 2023.
53. Lal, R. 2023. Living soils of America. Intl. Symposium Soil and Plant Analysis Conference. Soil and Plant Analysis Council/Universidad Tecnica Federico Santa Maria/Agriservice, Concepcion, Chile. 22nd March 2023.
54. Lal, R. 2023. Carbon Farming and Payments for Ecosystem Services. Intl. Symposium on Soil and Plant Analysis Conference, Soil and Plant Analysis Council/Universidad Tecnica Federico Santa Maria/Agriservice, Concepcion, Chile. 23rd March 2023.
55. Lal, R. 2023. Climate change and soil science. Webinar by Methodist Theological School, Delaware, Ohio, USA. 19th April 2023.
56. Lal, R. 2023. Managing soil as nature-based solution to achieving climate and food security: Role of CA4SH. Friends of Soil Health Dialogue, Online, USA. 19th April 2023.
57. Lal, R. 2023. Integrated management of degraded soils to ensure food and climate security. International Conference at the National University of Uzbekistan. Tashkent, Uzbekistan. 19-22 April 2023.
58. Lal, R. 2023. Protecting and restoring soil health by sequestering carbon for returning land to nature. Professors World Peace Academy Event, Online. 21st April 2023
59. Lal, R. 2023. The Living Soils of America (LiSAM) program: Potential and opportunities, LiSAM Board Meeting, San Jose, Costa Rica. 27th April 2023.
60. Lal, R. 2023. Climate Change and its impact on African agriculture. AAA Science Day, Meknes, Morocco. 3rd May 2023
61. Lal, R. 2023. Bringing Soil Health Revolution Forward and Operationalizing. CA4SH Side Event at AimForClimate, Washington D.C., USA. 10th May 2023.
62. Lal, R. 2023. Managing soil health for food and climate security. Extinction or Regeneration Conference, London, U.K. 11-12 May 2023.
63. Lal, R. 2023. Concluding remarks for AgCarbon Conference, UM6P, Ben Guerir, Morocco. 24-25 May 2023.
64. Lal, R. 2023. Carbon farming for advancing Sustainable Development Goals. Plenary Lecture, AgCarbon Conference, UM6P, Ben Guerir, Morocco. 24-25 May 2023.

65. Lal, R. 2023. Managing soil health with Vetiver (*Vetiveria Zizinioides*) for food and climate security. 7th Int. Vetiver Conference, Chiang Mai, Thailand, 29-31st May 2023.
66. Lal, R. 2023. Processes of soil carbon sequestration. 7th Int. Vetiver Conference, Chiang Mai, Thailand, 29-31st May 2023.
67. Lal, R. 2023. Tribute to Her Royal Highness Maha Chakri Sirindhorn: The Determined Developer, 7th Int. Vetiver Conference, Chiang Mai, Thailand, 29-31st May 2023.
68. Lal, R. 2023. Agriculture Revolution in Brazil: Accomplishments and Challenges. OneAgro 2023 Conference, Syngenta, Campinas, Brazil. 13-14 June 2023.
69. Lal, R. 2023. Managing agriculture for climate and food security. OneAgro 2023 Conference, Syngenta, Campinas, Brazil. 13-14 June 2024.
70. Lal, R. 2023. Principals of carbon farming. OneAgro 2023 Conference, Syngenta, Campinas, Brazil. 13-14 June 2023.
71. Lal, R. 2023. SDG2 & Soil. Advancing Success Towards SDG2 (Zero Hunger) Through Science and Technology, National Academy of Sciences Building, Washington, D.C., USA. 14 July 2023.
72. Lal, R. 2023. Carbon Sequestration – Enabling Brazilian Agriculture to Foster Global Sustainability. SOEA Conference: Official Week of Engineering and Agriculture with CONFEA/CREA, Porto Alegre, Brazil. 10th August 2023.
73. Lal, R. 2023. Carbon Sequestration: How Brazilian Agriculture Can Contribute to Global Sustainability. CONFEA Conference, Porto Alegre, Brazil. 8-11 August 2023.
74. Lal, R. 2023. Soil, Spirituality, Science, and Religion. Professors World Peace Academy Event. Saint Paul, Minnesota, USA. 23rd August 2023.
75. Lal, R. 2023. Soil, Climate, Water, Food Security Issues in India. Visit of Minister of Agriculture and the Delegation. Washington, D.C., USA. 2nd September 2023.
76. Lal, R. 2023. Food-Energy-Water-Soil Nexus: FEWS. The ICEF Forum 2023, Tokyo, Japan. 5th September 2023.
77. Lal, R. 2023. Towards National Soil Nutrient Roadmaps in Tanzania. Africa Food Systems Forum, Dar es Salaam, Tanzania, 6th September 2023.
78. Lal, R. 2023. Restoring Soil Carbon in Drylands for Advancing Sustainable Development Goals of the U.N. Agenda 2030. Regional Action for Climate Change (RACC), STS, Japan, Pre-COP Global Webinar, 11th September 2023.
79. Lal, R. 2023. Carbon Farming: A New Crop for Addressing Climate Change. IICA Ambassador for Sustainable Development Issues, San Jose, Costa Rica, 3rd – 4th October 2023.
80. Lal, R. 2023. Soil Health via Carbon Sequestration: Challenges and Opportunities in Brazilian Agriculture. Bayer C Science Talks, Univ. Of Sao Paulo, Piracicaba, Brazil, 4th October 2023.
81. Lal, R. 2023. Agriculture in the LAC Region: Challenges and Opportunities. IICA Ministerial Meeting, IICA, San Jose, Costa Rica. 3-5th October 2023.

82. Lal, R. 2023. Conceptual Basis of MASHA Project. The Voice of Africa UM6P Side events: Food Security, UM6P, Ben Guerir, Morocco, 7th October 2023.
83. Lal, R. 2023. The Role of Healthy Soil for the People and the Planet. CA4SH Dialogue Presentation at the 2023 WFP Event, Des Moines, Iowa, USA. 17th October 2023.
84. Lal, R. 2023. World Food Day: Pride and Celebrations. IARI, 2023 WFD Celebrations, New Delhi, India, 17th October 2023.
85. Lal, R. 2023. Making Agriculture a Part of the Solution to Climate Change and Other Environmental Issues of the 21st Century. Agri-Investment Forum and Expo, Georgetown, Guyana, 19th – 20th October 2023.
86. Lal, R. 2023. Repairing and Protecting World's Finite and Fragile Soils. Conference by the Cooperative Sector, Rome, Italy. 25th October 2023.
87. Lal, R. 2023. The Role of Healthy Soil for the People and the Planet. CA4SH Side Event, WFP, Des Moines, IA, USA. 24-26th October 2023.
88. Lal, R. 2023. The Importance of Soil Management to Mitigate Climate Change. Harvard Conference on Consciousness, Conscious Approach to Environment and Leadership, Harvard University, Cambridge, Massachusetts, USA. 27-28th October 2023.
89. Lal, R. 2023. Stakeholder Dialogue on Enhancing Fertilizer Use Efficiency for Sustainable Soil Health. Workshop by TAAS, New Delhi, India, 28-29th October 2023.
90. Lal, R. 2023. Regenerative Agriculture. RUFORUM AGM, Yaounde, Cameroon, West Africa, 1st November 2023.
91. Lal, R. 2023. Restoring and Sustaining Soil Health in Africa. From the Ground Up: Innovations in Sustainable Fertilizer and Soil Health Management in African Agriculture, Special Session, 2023 Tri-Society Meeting, St. Louis, Missouri, USA. 1st November 2023.
92. Lal, R. 2023. From the Ground Up: Innovations in Sustainable Fertilizer and Soil Health Management in African Agriculture. Tri-Society Meeting: Open Science Inspires, St. Louis, Missouri, USA. October 29th – November 1st, 2023.
93. Lal, R. 2023. Soil and Land Management for Food and Nutrition Security and Harnessing Net Carbon Sink Capacity. World Agri-food Innovation (WAFI) Conference CAU, Beijing, China, 1st-6th November 2023.
94. Lal, R. 2023. Making Pastoral Agriculture a Part of the Solution to Addressing Anthropogenic Global Warming. The International Symposium on Pastoral Agriculture Sustainable Development, Lanzhou, China, 14th – 17th November 2023.
95. Lal, R. 2023. Role of CA4SH in Addressing Global Issues. The CA4SH Quarterly Partners Meeting, CA4SH, Online, 14th November 2023.
96. Lal, R. 2023. Global Challenges and How to Address Them. The CA4SH Quarterly Partners Meeting, CA4SH, Online, 14th November 2023.

97. Lal, R. 2023. Welcome to the Carbon Academy Workshop. Carbon Academy Workshop, Waterman Agricultural and Natural Resources Laboratory, Columbus, Ohio, USA. 17th November 2023.
98. Lal, R. 2023. Managing Soil Carbon for Addressing Global Warming. Carbon Academy Workshop, Waterman Agricultural and Natural Resources Laboratory, Columbus, Ohio, USA. 17th November 2023.
99. Lal, R. 2023. Carbon Farming and the Societal Value of Carbon. Carbon Academy Workshop, Waterman Agricultural and Natural Resources Laboratory, Columbus, Ohio, USA. 17th November 2023.
100. Lal, R. 2023. Carbon Management in Agricultural Produce. ICAR Central Coastal Agricultural Research Institute (ICAR-CCARI). Goa, India. 23rd November 2023.
101. Lal, R. 2023. Managing Soil Health in Africa: Food, Climate, and SDG Security. Chair in Soil Sciences, UM6P, Ben Guerir, Morocco, 23rd November 2023.
102. Lal, R. 2023. The Importance of Soil for Food and Agriculture. Pavilion for Latin America and the Caribbean (LAC), CAF Event at COP28, Dubai, United Arab Emirates. 3rd December 2023.
103. Lal, R. 2023. Advances towards making agriculture a part of the solution to global warming and other environmental issues. 2023 WSD, Brazil Gateway, The Ohio State University, Columbus, Ohio, USA. 5th December 2023.
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d) Chapters in Multi-Authored Books

43. Bridges, K.M., Neikirk, H. and Lal, R. 2022. Advances in Soil Health in R. Lal (Ed) “Soil Organic Carbon and Feeding the Future.” Advances in Soil Science. CRC/ Taylor and Francis, Boca Raton, FL. 273-285. <https://doi.org/10.1201/9781003243090>
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e) *Keynote Presentations*

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51. Lal, R. 2022. *Managing Physical Properties of Soils of India for Food and Climate Security*. Dr. B.P. Ghildyal Memorial Lecture, ICAAR New Delhi, India. 22 February 2022.
52. Lal, R. 2022. *Sustainable agriculture data: What’s missing, what can be improved, and what needs validation? Strategizing to improve soil health data in agricultural surveys. 50x2030 Initiatives Methods and Tool Development*. Rome, Italy. 25 February 2022.
53. Lal, R. 2022. *Bringing Soil-Centric Green Revolution to Sub-Saharan Africa*. Climate Soil Community of Practice: 4 per Thousand and GIZ Event. Bonn, Germany. 24-25 March 2022.
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56. Lal, R. 2022. *Living in Harmony With Nature*. The Torch Club Seminar. Faculty Club, The Ohio State University. Columbus, Ohio, USA. 7 April 2022.

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62. Lal, R. 2022. *Regenerative Agriculture for Soil Carbon Management and Sequestration*. Regenerative Society Foundation Meeting. Milan, Italy. 4 May 2022.
63. Lal, R. 2022. *Making Soils of Small Landholder Farmers Input- Responsive*. Research Committee of the IFDC. Muscle Shoals, Alabama, USA. 10 May 2022.
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66. Lal, R. 2022. *Healthy Soil and Food for Healthy Planet*. UNCCD-CA4SH Side Event. Abidjan, Ivory Coast, West Africa. 12 May 2022.
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71. Lal, R. 2022. *The role of scientific research in the promotion of sustainable development and peace*. Academy of Sciences of Moldova, Science for Peace Forum. Chişinău, Moldova. 25 May 2022.
72. Lal, R. 2022. *50th World Environmental Day 2022: only One Earth*. WED. Stockholm, Sweden. 5 June 2022.

73. Lal, R. 2022. *NC 1178 Ohio 2022 Annual Report*. Texas A&M University, College Station, Texas, USA 8 June 2022.
74. Lal, R. 2022. *Managing Soil Health for Carbon Farming and Sustainability*. Innovations for Crop Science, Bayer. Online. St. Louis, Missouri, USA. 10 June 2022.
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76. Lal, R. 2022. *Sustainable Soil Management For Food and Climate Security*. Pepsico/IICA Webinar. San Jose, Costa Rica. 14 June 2022.
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79. Lal, R. 2022. “Living Soils of the Americas”, IICA in Action Podcast Recording. Inter-American Institute for Cooperation on Agriculture (IICA), San Jose, Costa Rica. 21 June 2022.
80. Lal, R. 2022. *No-Tillage System, Improving Soil Life, Environmental Sustainability and Social Wellbeing*. 18th National Meeting on Direct Planting in Straw and First World Meeting of the Direct Planting System. Grand Carima Resort and Convention Center, Iguasu Falls, Brazil. 5 July 2022.
81. Lal, R. 2022. *Food Security & Self Sustainance: Indian Agriculture and Indigenous and Global Prosperity*. Harnessing Indian Agriculture Indigenous and Global Prosperity. Bhartiya Kisan Sangh, ICAR Complex. New Delhi, India. 22 June 2022.
82. Lal, R. 2022. *Managing soil as a nature-based solution to tackle climate plant biology*. Portland, Oregon, USA. 9-13 July 2022.
83. Lal, R. 2022. *Managing soil for food security*. OCP Cultivating Conversation, Feeding the Earth: Understanding Soil Health. Online. Wayzata, Minnesota, USA. 13 July 2022.
84. Lal, R. 2022. *Soil health management and education for climate and food security*. Sustainable Agriculture Education Association (SAEA). The Ohio State University, Columbus, Ohio, USA. 20-22 July 2022.
85. Lal, R. 2022. *Soil-Plant-Human nutrition nexus in Africa*. IICA. Inter-Ministerial Meeting. San Jose, Costa Rica. 27-29 July 2022.
86. Lal, R. 2022. *Restoring Soil Health & Returning Land to Nature*. 22nd World Congress of Soil Science. WCSS, Glasgow, Scotland. 31 July- 5 August 2022.
87. Lal, R. *Importance of Soil for the present and future of humanity*. 30th Aapresid Annual Congress. Buenos Aires, Argentina. 10-12 August 2022.
88. Lal, R. 2022. Priming Africa’s farming through regenerative agriculture. Sasakawe/ Japan International Research Center for Agricultural Sciences (JIRCAS) Virtual Webinar on Potential of Regenerative Agriculture in Africa. Online. 5 Aug 2022.

89. Lal, R. 2022. *Soil health and carbon sequestration. Symposium on Agriculture, Food Systems and Climate Change*. North Carolina State University. Raleigh, NC, USA. 11 Aug 2022.
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91. Lal, R. 2022. Soil Carbon Dynamics under changing climate. Climate Speaker Series, Sandia National Laboratory. Livermore, California, USA. 29 Aug 2022.
92. Lal, R. 2022. *Sustaining soil health for posterity*. National Symposium of Food, Nutrition, and Environment Security, Achieving Sustainable Development Goals. NASC Complex, New Delhi, India. 29-30 Aug. 2022.
93. Lal, R. 2022. *Carbon Trading: Calculating Carbon Footprint: Payment for Ecosystem Services*. Engro Fertilizer Ltd. Karachi, Pakistan. 30 Aug 2022.
94. Lal, R. 2022. Farming Carbon in Global Drylands. *Impact of Climate Change on Food Production in Dry Areas*. Ain Shams University. Cairo, Egypt. 3-5 Sept. 2022.
95. Lal, R. 2022. *Integrating Science in with Spirituality for enhancing the coping and adaptive capacity through human and physical infrastructure. In Impact of Climate Change on Food Production in Dry Areas*, RACC/IDDC/ICARDA/ALARI Hybrid Webinar, Ain Shams University, Cairo, Egypt. 3-5 Sep 2022.
96. Lal, R. 2022. *Address Global Issues through Gandhian Philosophy*. Gandhi Memorial Society, The American Legion, Westerville, OH, USA. 8 Sep 2022.
97. Lal, R. 2022. IICA in Action Podcast Recording. Inter-American Institute for Cooperation on Agriculture (IICA), San Jose, Costa Rica. 13 Sep 2022.
98. Lal, R. 2022. *Soil as a Source and Sink of Greenhouse Gases*. Colloquium, Dept. of Physics, Ohio State University. Columbus, Ohio, USA. 13 Sep 2022.
99. Lal, R. 2022. Interview with FAO. FAO Science and Innovation Forum. Rome, Italy. Online. 14 Sep 2022.
100. Lal, R. 2022. *Regenerative Agriculture*. Harnessing the potential of natural farming (regenerative agriculture) as a low-emission development pathway for improved resilience, soil health, livelihoods, and nutrition in India, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, Telangana, India. 15 Sep 2022.
101. Lal, R. 2022. *Soil Health and Sustainability*. Ernesto Illy Colloquia, Sustainable Challenges in Coffee Growing Worldwide, Trieste, Italy. 27-29 September 2022.
102. Lal, R. 2022. *Basic science in relations with soil management in agriculture – a solution to adaptation and mitigation of climate change*, Basic sciences for sustainable development of the society, Academy of Sciences of Moldova, Chişinău, Moldova. 28 September 2022
103. Lal, R. 2022. Regenerative Agriculture for a Just and Peaceful Future, Westheimer Peace Symposium. Wilmington College, Wilmington, Ohio, USA. 28 Sep. 2022.
104. Lal, R. 2022. *Soil Health for Food and Sustainability*. Ernesto Illy Colloquia. 29 Sep. 2022. Trieste, Italy.

105. Lal, R. 2022. *Soil Carbon Sequestration for Food Climate and Security and advancing sustainable Development Goals of the United Nations*. Webinar at the Faculty of Forestry, University of Banja Luka, Republic of Srpska, Bosnia and Herzegovina, 29-30 Sep 2022.
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107. Lal, R. 2022. *C-FARM*. C-FARM Launch. The Ohio State University. Columbus, Ohio, USA. 2. Nov. 2022.
108. Lal, R. *Basic Laws of Soil Management for Food Security and Sustainable World*. C-Farm Launch. The Ohio State University. Columbus, Ohio, USA. 2 Nov. 2022.
109. Lal, R. 2022. *Managing Soil Organic Matter Content to Restore and Enhance Soil Health*. Iowa State University. Ames, Iowa, USA. 2 Nov. 2022
110. Lal, R. 2022. *Soil Health for Food Security and Sustainability*. Sustainability Institute Seminar, The Ohio State University, Columbus, Ohio, USA. 2 Nov. 2022.
111. Lal, R. 2022. *Managing Soil Health for Food, Nutritional and Climate Security*. Symposium on Complex Science of Soil Health, Food and Nutritional Security and Climate, ASA/CSSA/SSSA Meeting, Baltimore, Maryland, USA. 8 Nov. 2022.
112. Lal, R. 2022. *Managing Soil Health to Sequester Carbon for Adaptation and Mitigation of Anthropogenic Climate Change*. International Conference “Climate Change: Impacts and Solutions”. Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, Pakistan. 7-9 November 2022.
113. Lal, R. 2022. *Making Agriculture as a Solution to Environmental Issues through the LiSAM Project*. Ministerial Meeting, IICA Pavilion, COP 27, Sharm El-Sheikh, Egypt. 12 Nov. 2022.
114. Lal, R. 2022. *Biofertilizers for Sustainable Soil Management and Producing More from Less*. Brazil Pavilion, COP 27, Sharm El-Sheik, Egypt. 14 Nov. 2022.
115. Lal, R. 2022. *Ecosystem Services Provisioned by Soil for Nature and Human*. World Soil Day Celebration, Shoolini University of Biotechnology and Management Sciences, Bajhol, PO Sultanpur, Distt. Solan, India. 5 Dec. 2022.
116. Lal, R. 2022. *Managing Soil for Safe, Healthy and Nutritious Food*. World Soil Day Panel, Environmental Professionals Network, The Ohio State University, Columbus, Ohio, USA. 5 Dec. 2022.
117. Lal, R. 2022. *Soil and Water Management in Arid Lands*. INRAA, Algiers, Algeria. 9 Dec. 2022.
118. Lal, R. 2022. *Managing soil health to address global issues of 21st Century*. British Ecological Society Annual Meeting, Edinburgh, Scotland, 18-21st December 2022.

f) Contributory Conference Papers in National and International Symposia

g) *Miscellaneous Publications.*

119. Lal, R. 2022. *Agroecology: Many ways, one goal – achieving sustainable agroecosystems*. Rural 21. 18 Aug. 2022 <https://www.rural21.com/english/search/detail/article/many-ways-one-goal-achieving-sustainable-agroecosystems.html>
120. Lal, R. Jimenez, M. Martin, C. Witkowski, K. et al. 2022. Instituto Interamericano de Cooperación para la Agricultura (IICA), *Countries of the Americas and Agrifood Companies, Together with Rattan Lal and IICA, Evaluated the Progress and Challenges of the Living Soils of the Americas Program*. 25 March 2022, <https://repositorio.iica.int/handle/11324/19990>.

a) Books Written

b) Books Edited

1. Lal, R. (Ed). 2021. Soil Organic Matter and Feeding the Future: Environmental and Agronomic Impact (1st ed.). CRC Press LLC, Boca Raton, Florida. pp. 428

c) Refereed Journal Articles

2. Amonette, J.E., H. Blanco-Canqui, C. Hassebrook, D.A. Laird, R. Lal, J. Lehmann, and D. Page-Dumroese. 2021. Integrated Biochar Research: A Roadmap. *Journal of Soil and Water Conservation* 76(1): 24A LP-29A. <https://doi.org/10.2489/jswc.2021.1115A>
3. Anghinoni, G., F.B.G. Anghinoni, C.A. Tormena, A.L. Braccini, I. de Carvalho Mendes, L. Zancanaro, and R. Lal. 2021. Conservation Agriculture Strengthen Sustainability of Brazilian Grain Production and Food Security. *Land Use Policy* 108: 105591. <https://doi.org/10.1016/j.landusepol.2021.105591>
4. Ansari MA, Saha S, Das A, Lal R, et al. 2021. Energy and carbon budgeting of traditional land use change with groundnut based cropping system for environmental quality, resilient soil health and farmers income in eastern Indian Himalayas. *J Environ Manage.*, 293:112892. <https://doi.org/10.1016/j.jenvman.2021.112892>
5. Das, A., K. Rangappa, S. Basavaraj, U. Dey, M. Haloi, J. Layek, R. G. Idapuganti, R. Lal, N. A. Deshmukh, G. S. Yadav, S. Babu, and S. Ngachan. 2021. Conservation tillage and nutrient management practices in summer rice (*Oryza sativa* L.) favoured root growth and phenotypic plasticity of succeeding winter pea (*Pisum sativum* L.) under eastern Himalayas, India. *Heliyon* 7(5): e07078. <https://doi.org/10.1016/j.heliyon.2021.e07078>
6. Evans, D. L., Janes-Bassett, V., Borrelli, P., Chenu, C., Ferreira, C. S. S., Griffiths, R. I., Kalantari, Z., Keesstra, S., Lal, R., Panagos, P., Robinson, D. A., Seifollahi-Aghmiuni, S., Smith, P., Steenhuis, T. S., Thomas, A., & Visser, S. M. 2022. Sustainable futures over the next decade are rooted in soil science. *European Journal of Soil Science*, 73(1), e13145. <https://doi.org/10.1111/ejss.13145>
7. Gao, X., Y. Xu, Z. Li, S. Li, R. Tian, H. Li, R. Lal, L. Liu, M.F. Saeed, and J. Wang. 2021. Heteroaggregation of Humic Acid with Montmorillonite in Divalent Electrolytes: Effects of Humic Acid Content and Ionic Concentration. *Journal of Soils and Sediments* 21(3): 1317–1328. <https://doi.org/10.1007/s11368-020-02858-y>.
8. Jayaraman, S., Naorem, A. K., Lal, R., Dalal, R. C., Sinha, N. K., Patra, A. K., & Chaudhari, S. K. 2021. Disease-suppressive soils—beyond food production: a critical review. *Journal of Soil Science and Plant Nutrition*, 21(2), 1437-1465. <https://doi.org/10.1007/s42729-021-00451-x>
9. Kimani-Murage, E., F. Gaupp, R. Lal, H. Hansson, T. Tang, A. Chaudhary, L. Nhamo, S. Mpandeli, T. Mabhaudhi, D. D. Headey, K. Hirvonen, and K. Afsana. 2021. An optimal diet for planet and people. *One Earth* 4(9):1189–1192. <https://doi.org/10.1016/j.oneear.2021.08.017>

10. Kumar, R., Kumar, R., J.S. Mishra, S. Mondal, R. S. Meena, P.K. Sundaram, B.P. Bhatt, R.S. Pan, R. Lal, K. Saurabh, N. Chandra, S.K. Samal, H. Hans, R.K. Ramana. 2021. Designing an ecofriendly and carbon-cum-energy efficient production system for the diverse agroecosystem of South Asia. *Energy*, 214, 118860. <https://doi.org/10.1016/j.energy.2020.118860>
11. Lal, R. 2021. Feeding the world and returning half of the agricultural land back to nature. *Journal of Soil and Water Conservation* 76(4):75A-78A. <https://doi.org/10.3390/app12010048>
12. Lal, R. 2021. Negative Emission Farming. *Journal of Soil and Water Conservation*, 76(3), 61A-64A. <https://doi.org/10.2489/jswc.2021.0419A>
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14. Lal, R., Monger, C., Nave, L., & Smith, P. 2021. The role of soil in regulation of climate. *Philosophical Transactions of the Royal Society B*, 376(1834), 20210084. <https://doi.org/10.1098/rstb.2021.0084>
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Chapters in Multi-Authored Books

32. Das, A., J. Layek, G.S. Yadav, R. Lal, S. Saha, et al. 2021. Managing Soil Organic Carbon in Croplands of the Eastern Himalayas, India. In: Lal, R. (ed) *Soil Organic Matter and Feeding the*

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 34. Jayaraman S., Bandyopadhyay, K.K., Naorem, A.K., Sinha, N.K., Mohanty, M., Hati, K.M., Patra, A.K., Chaudhari, S.K., Dalal, R.C., Lal, R. 2021. Soil Carbon Sequestration Through Conservation Tillage and Residue Management. Chapter 14. In: Jayaraman S., Dalal R.C., Patra A.K., Chaudhari S.K. (eds) Conservation Agriculture: A Sustainable Approach for Soil Health and Food Security. Springer, Singapore. https://doi.org/10.1007/978-981-16-0827-8_14. pp. 299-319
 35. Jayaraman, S., Naorem, A.K., Hati, K.M., Sinha, N.K., Patra, A.K., Chaudhari, S.K., Lal, R. and Dalal, R.C. 2021. Conclusions: Perspectives on Conservation Agriculture. In: Jayaraman S., Dalal R.C., Patra A.K., Chaudhari S.K. (eds) Conservation Agriculture: A Sustainable Approach for Soil Health and Food Security. Springer, Singapore. https://doi.org/10.1007/978-981-16-0827-8_30. pp. 623-632
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 38. Meena, R.S., S. Kumar, S. Sheoran, M.K. Jhariya, R. Bhatt, ..., R. Lal. 2021. Soil Organic Carbon Restoration in India: Programs, Policies, and Thrust Areas. In: Lal, R., editor, Soil Organic Matter and Feeding the Future: Environmental and Agronomic Impacts. 1st ed. CRC Press LLC, Boca Raton, Florida. pp. 306-338 <https://doi.org/10.1201/9781003102762>
 39. Mrabet, R., R. Moussadek, M. Devkota, and R. Lal. 2021. No-Tillage Farming in Maghreb Region: Enhancing agricultural productivity and sequestering carbon in soils. In: Lal, R., editor, Soil Organic Matter and Feeding the Future: Environmental and Agronomic Impacts. 1st ed. CRC Press LLC, Boca Raton, Florida. p. 26
 40. Virk, A.L., G.S. Yadav, X. Zhao, Z.-R. Kan, J.-Y. Qi, N. Ahmad, R. Lal, H.-L. Zhang. 2021. Role of Legumes in Managing Soil Organic Matter and Improving Crop Yield. In: Lal, R., editor, Soil Organic Matter and Feeding the Future: Environmental and Agronomic Impacts. 1st ed. CRC Press LLC, Boca Raton, Florida. p. 259–278 <https://doi.org/10.1201/9781003102762>

d) Invited Keynote and Panelist Presentations

41. Lal, R. 2021. Managing Soil for Producing Nutritional Food and Mitigating Climate Change. Keynote Lecture and Panelist Discussion. National Institute of Food Technology Entrepreneurship and Management. Sonapat, Haryana, India. Online. 1 January 2021.

42. Lal, R. 2021. Carbon... the Heart of Soil Health. 2021 Soil Health Conference. South Dakota Soil Health Coalition. Pierre, South Dakota, USA. Online. 6-7 January 2021.
43. Lal, R. 2021. The Rights of a Living Soil. University Course Lecture at Earth University. Bija Vidyapeeth at Navdanya International. Florence, Italy. Online. 13 January 2021.
44. Lal, R. 2021. Reorienting Agricultural Research and Education. Punjab Agricultural University and Punjab State Farmers' & Farm Workers' Commission. Ludhiana, India. Panelist. Online. 15 January 2021.
45. Lal, R. 2021. Bringing Green Revolution to Small Landholder Farmers of Africa. Webinar for AZURA Group Director's Meeting. AZURA Group, France-Morocco. Online. 27 January 2021.
46. Lal, R. 2021. Leveraging Agricultural Best Tools for Climate Mitigation. 2021 Virtual Sustainable Agriculture Conference. Pasa Sustainable Agriculture. Online. 1 February 2021.
47. Lal, R. 2021. Soil Organic Carbon for Resilience and Sustainable Food Systems and Achieving Food and Nutrition Security. International Symposium on Spices and Aromatic Crops X. Spices as Flavors, Fragrances, & Functional Foods. SYMSAC X - 2021. Kerala, India. Online, Recorded. 9 February 2021.
48. Lal, R. 2021. Honorary Degree Acceptance Speech. Indian Agricultural Research Institution Convocation. Indian Agricultural Research Institution. Pusa, New Delhi, India. Online. 12 February 2021.
49. Lal, R. 2021. Soil Quality Management. Northeast Nebraska Bazile Groundwater Management Area Annual Public Winter Meeting. Lower Elkhorn Natural Resources District. Bazile, Nebraska, USA. Online. 19 February 2021.
50. Lal, R. 2021. An Amazing Agroforestry Story: The Inga Model In Central America (Virtual). Life Saves the Planet Lecture Series. Biodiversity for a Livable Climate and WGBH Forum Network. Boston, Massachusetts, USA. Panelist. Online. 22 February 2021. <https://forum-network.org/lectures/amazing-agroforestry-story-inga-model-central-america/>
51. Lal, R. 2021. Adopting a holistic approach to soil health and agricultural productivity in Africa. Argus Fertilizer Live – Virtual Conference. Argus Fertilizer. London, United Kingdom. Online. Panelist. 24 February 2021.
52. Lal, R. 2021. Food, Cities and Climate. Panel Discussion. New York City Food Policy Center at Hunter College. New York, New York, USA. Online. Panelist. 24 February 2021.
53. Lal, R. 2021. Potential & Challenges of Regenerative Agriculture. IICA-Pepsico Webinar. IICA and Pepsico. San José, Costa Rica. Online. 4 March 2021.
54. Lal, R. 2021. Managing Organic Matter: The Heart of Soil Health. Virtual World Agri-Tech Innovation Summit 2021: Harnessing Agriculture as a Source of Nature-Based Solutions for Climate. World Agri-Tech USA. Rethink Events. Brighton, United Kingdom. Online, Recorded. 9 March 2021.
55. Lal, R. 2021. Soil and Humanity. Day 2. TEDxOhioStateUniversity. The Ohio State University and TEDx. Columbus, Ohio, USA. Online. 14 March 2021. (28:00): <https://youtu.be/mKvs24s8jW8?t=1680>

56. Lal, R. 2021. Translating Science into Action by Building Bridges Across Societal Divides. International Summit on Agri-Innovations on 21st Century and the Ways Ahead. G.B. Pant University of Agriculture and Technology, Pantnager, Uttar Khant, India. Online, Recorded. 9-10 March 2021.
57. Lal, R. 2021. Soil Quality and Health. Global Agriculture Innovation Forum: Sustainable and Climate-Smart. USDA's Foreign Agricultural Service and Purdue University's Office of International Programs in Agriculture. West Lafayette, Indiana, USA. Online. 19 March 2021. <https://youtu.be/htENinZ7t6Y?t=1730>
58. Lal, R. 2021. Impact of Soil Carbon Dynamics on the Environment and Management of Improved Soil Health in the Coastal Ecosystems. International Symposium on Coastal Agriculture Webinar: Transforming Coastal Zone for Sustainable Food and Income Security. Indian Society of Coastal Agricultural Research. Canning Town, West Bengal, India. Online, Recorded. 17 March 2021.
59. Lal, R. 2021. Universities Fighting World Hunger (UFWH): One Planet - Hunger Solutions. University of California Davis. Davis, California, USA. Online. 25 March 2021.
60. Lal, R. 2021. Managing the Health of Soil in Semi-Arid Tropics for Food, Climate, and Other Ecosystem Services. ANGRAU Institutional Development Plan International Seminar Series. Acharya N. G. Ranga Agricultural University. Hyderabad, India. Online, Recorded. 26 March 2021.
61. Lal, R. 2021. Soil Health and Nutrition Sensitive Agriculture. Foundation Day Lecture. IARI, New Delhi, India. Recorded. 1 April 2021.
62. Lal, R. 2021. U.S. China Ag Roundtable. Chinese Academy of Social Sciences (CASS). Recorded. 8 April 2021.
63. Lal, R. 2021. Managing Soils for Food, Nutrition, and Climate. Soil4Food Webinar. CAU, Beijing, China. Online, Recorded. 16 April 2021.
64. Lal, R. 2021. Potential of Regenerative Agriculture for Carbon Management and Sustainability. 2021 ILSI Annual Science Symposium. ILSI. Online, Recorded. 20 April 2021.
65. Lal, R. 2021. C-MASC Earth Day Celebration. 22 April 2021. CFAES Rattan Lal Center for Carbon Management and Sequestration, College of Food, Agriculture, and Environmental Sciences, The Ohio State University, Columbus, Ohio, USA. Online Webinar. Recorded.
66. Lal, R. Restoring Earth's Carbon Cycle by Enhancing Soil Health. International Webinar on World Earth Day. SKNAU, Jobner, Jaipur, Rajsthan, India. Recorded. 22 April 2021.
67. Lal, R. 2021. Soil Health in the Age of Global Warming: Importance for the Sustainable Development of Society, Improving Post-Pandemic Human Health. Academy of Sciences of Moldova. Chişinău, Moldova. Recorded. 7 June 2021.
68. Lal, R. 2021. Climate Change Roundtable. 2 June 2021.
69. Lal, R. 2021. GCSE Presentation. Session 2.2 of the Transatlantic Symposium. Virtual Transatlantic Symposium: Academic Research Institutions Advancing Sustainability. Ambassade de France aux Etats-Unis and Global Council for Science and the Environment. Washington, D.C., USA. 8 June 2021.

70. Lal, R. 2021. Transformations of the World Food Systems. IICA Webinar. Inter-American Institute for Cooperation on Agriculture. San José, Costa Rica. 28 June 2021.
71. Lal, R. 2021. Future of Voluntary Carbon Markets for Sustainable Agriculture. Panelist. 18 June 2021.
72. Lal, R. 2021. Crop Residue Management and Properties of Some Soils in Ohio. 15 June 2021. Ohio NC-1178 Virtual Annual Meeting Committee. The Ohio State University, Columbus, Ohio, USA.
73. Lal, R. 2021. Sustainable Intensification to Advance Food Security in Africa. 23 July 2021. Tanzania.
74. Lal, R. 2021. Soil Centric Solutions The Triple Challenge of food insecurity, biodiversity loss and climate change. Pre-Summit of the UN Food Systems Summit: End Hunger and Nourish All. Rome, Italy. 26 July 2021.
75. Lal, R. 2021. Impact of Sustainability on Agriculture's Future. U.S. Grains Council Meeting - Wednesday General Session. Washington, D.C., USA. Online. 28 July 2021.
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d) Chapters in Multi-Authored Books

55. Das, A., Yadav, G.S., Layek, J., Lal, R., Meena, R.S., Babu, S. and Ghosh, P.K., 2020. Carbon Management in Diverse Land-Use Systems of Eastern Himalayan Subtropics. In Ghosh, P.K., Mahanta, S. K., Mandal, D., Mandal, B., Ramakrishnan, S. (Eds.) *Carbon Management in Tropical and Sub-Tropical Terrestrial Systems.* Springer, Singapore. pp 123-142. <https://doi.org/10.1007/978-981-13-9628-1>
56. Kemper, K., Xia, Y., Lakritz, J., Lal, R. 2020. Health of Soil, Plants, Animals, and People. In Lal, R. (Ed) *The Soil-Human Health-Nexus.* CRC Press, Boca Raton, Florida. pp 350. 9780367822736 <https://doi.org/10.1201/9780367822736>
57. Lal, R. 2020. Managing Soil for Global Peace by Eliminating Famines and Pandemics. In Lal, R. (Ed) *The Soil-Human Health-Nexus.* CRC Press, Boca Raton, Florida. pp 350. 9780367822736 <https://doi.org/10.1201/9780367822736>
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61. Lal, R. 2020. Tenents of Soil Education. In Kosaki, T., R. Lal, and L.B. Reyez-Sanchez (Eds) *Soil Science Education: Global Concepts and Teaching.* Catena Soil Science Publications, Schweizerbart, Stuttgart, Germany.
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63. Lal, R. 2020. Managing Soils for Reducing Dependence on Chemicals and Import of Resources into Agroecosystems. In Lal, R. (Ed) *Soil and Fertilizers: Managing the Environmental Footprint.* CRC Press, Boca Raton, Florida. pp 372. 9780429471049 <https://doi.org/10.1201/9780429471049>

64. Lal, R. 2020. Conserving Soil and Water to Sequester Carbon and Mitigate Global Warming, In: Delgado, J.A., Gantzer, C.A., Sassenrath, G.F. (Eds.) Soil and Water Conservation: A Celebration of 75 Years. Soil and Water Conservation Society, Ankeny, IA, p. 241-254. 978-0-9856923-3-9
65. Lal, R., 2020. Advancing Climate Change Mitigation in Agriculture while Meeting Global Sustainable Development Goals, In: Delgado, J.A., Gantzer, C.A., Sassenrath, G.F. (Eds.) Soil and Water Conservation: A Celebration of 75 Years. Soil and Water Conservation Society, Ankeny, IA, p. 12-31. 978-0-9856923-3-9
66. Sá, J.C.M, F. Tivet, R. Lal, A. O. Ferreira, C. Briedis. 2020. 7. Carbon management practices and benefits in Conservation Agriculture systems: Carbon sequestration rates. In Kassam, A. (Ed) Advances in Conservation Agriculture, Volume 2: Practices and Benefits. Burleigh Dodds, London, United Kingdom. pp. 199-227. ISBN-13: 9781786762689
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68. Singh, Br. A. Safalaoh, N.A. Amuri, L.O Eik, B.K. Situla, and R. Lal. 2020. Agricultural and natural resources sustainability under changing climate in Africa. In B.R. Singh et al. (Eds). Climate Impacts on Agricultural and Natural Resource Sustainability in Africa. Springer Nature, Switzerland. pp 3-21. 978-3-030-37537-9 <https://doi.org/10.1007/978-3-030-37537-9>
69. Singh, Br. A. Safalaoh, N.A. Amuri, E.L. Olav, B.K. Situla, and R. Lal. 2020. Knowledge gaps and research priorities. In B.R. Singh et al. (Eds). Climate Impacts on Agricultural and Natural Resource Sustainability in Africa. Springer Nature, Switzerland: 607-623. 978-3-030-37537-9
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70. Sitaula, B.K., O. Zurovec, B.C. Luitel, A. Parker, and R. Lal. 2020. Need for personal transformations in climate change: Reflections on an environment change and climate smart agriculture in Africa. In B.R. Singh et al. (Eds). Climate Impacts on Agricultural and Natural Resource Sustainability in Africa. Springer Nature, Switzerland: 347-371. 978-3-030-37537-9
<https://doi.org/10.1007/978-3-030-37537-9>

e) Invited Keynote and Panelist Presentations

71. Lal, R. 2020. Advancing Sustainable Development Goals by Restoring Soil Health of India's Agroecosystems. Indian National Science Congress. Indian Science Academy (ISA), Bengaluru, India. Recorded. 1-6 January 2020.
72. Lal, R. 2020. Managing Soils for Food and Climate. Parker Food Science Seminar. The Ohio State University, Columbus, OH, USA. 15 January 2020.
73. Lal, R. 2020. Soil and Global Issues: Solutions Under Foot. CAHNRS Department of Crop and Soil Sciences Spring 2020 Seminars. Washington State University, Pullman, WA, USA. 23 January 2020. <https://www.youtube.com/watch?v=o8lZI8DE9Ao>

74. Lal, R. 2020. Soil Health and Its Management. Linking Soil and Watershed Health to In-Field and Edge-of-Field Water Management. West Virginia University, WV, USA. Recorded. 23-24 January 2020.
75. Lal, R. 2020. Enhancing Food Quality and Quantity by Managing Soil Health. World Peace Summit. International Conference on the Unity of the Sciences (ICUS), Seoul, South Korea. 2-5 February 2020.
76. Lal, R. 2020. Opportunities in Agriculture to ADAM of Climate Change. EPN Seminar on Living Soil. The Ohio State University, Columbus, OH, USA. 25 February, 2020.
77. Lal, R. 2020. Managing Soil Carbon for Food and Climate. US-UK Scientific Forum on Sustainable Agriculture. National Academy of Sciences (NAS), Washington, D.C., USA. 5 March 2020. <https://www.youtube.com/watch?v=uL5OIhhgxWc&feature=youtu.be>
78. Lal, R. 2020. EFI Technical Workshop: Carbon Dioxide Removal and EFI Technical Workshop: Plant Cultivars and Technology-Driven Approaches for Carbon Dioxide Removal. Energy Futures Initiative. Panelist. Online. 20 March and 16 April 2020.
79. Lal, R. 2020. Conseil Scientifique. Planet A. Panelist. Online, USA. 31 March 2020.
80. Lal, R. 2020. Ohio Youth Institute with the World Food Prize Foundation. The Ohio State University, Columbus, Ohio, USA. Moderator. Online. 20 April 2020.
81. Lal, R. 2020. General presentation of the regional context vis-a-vis "4 per 1000" Initiative. Regional Meeting. 4 per 1000. Panelist. Online, USA. 11 – 15 May 2020.
82. Lal, R. 2020. Managing the Global Carbon Cycle by Regenerative Agriculture. Living Soils Symposium, 2020. Montreal, Canada. Released online, USA. 12 May 2020. <https://youtu.be/jCCZ2f2WG0Y>
83. Lal, R. 2020. Where Does Our Food Come From? It's the Soil Stupid (ITSS). Case Study #5: Middle East Studies Center. Where Does Our Food Come From? Global Agricultural and Economic Sustainability. 2020 Global Teacher Seminar. The Ohio State University, Columbus, Ohio, USA. 5 June 2020.
84. Lal, R. 2020. Digital Dialogue with the 2020 World Food Prize Laureate. World Food Prize Laureate Announcement. Des Moines, IA, USA. Online via Zoom, USA. 11 June 2020.
85. Lal, R. 2020. Brainstorming Session on Combating Desertification and Drought for Food, Feed, and Fiber. Soil Conservation Society of India (SCSI) and Indian Society of Agricultural Engineers (ISCO): Brain Storming Session. Kolkata, India. Recorded. 17 June 2020.
86. Lal, R. 2020. Status and Challenges of Global Soil Carbon Sequestration. RECSOIL: Recarbonization of Global Soils. Food and Agricultural Organization of the UN (FAO). Rome, Italy. Online via Zoom. 17 June 2020.
87. Lal, R. 2020. Scientific Discussions: Soil Science and Agricultural Chemistry. Online Guest Lecture Series, Jawaharlal Nehru Agricultural University. Jabapur, India. Online via Zoom. 18 June 2020.

88. Lal, R. 2020. Environmental Issues and the Green Revolution in India. FIA-Ohio Exclusive Live Session with Dr. Lal. Federation of Indian Associations (FIA) in Ohio. Columbus, OH, USA. Online. 20 June 2020.
89. Lal, R. 2020. Dialogue with Dr. Manuel Otero, General Director of IICA. Soil Health: The Welfare of Humanity. Inter-American Institute for Cooperation on Agriculture (IICA). San José, Costa Rica. Online via Zoom. 7 July 2020.
90. Lal, R. 2020. Soil Carbon and Agricultural Production. Webinar at Mahatma Gandhi University. Mahatma Gandhi University, Kottayam, Kerala, India. Online. 6 July 2020.
91. Lal, R. 2020. Soil Health and Eco-Agriculture for Food and Environmental Security in India. Agriculture Today Group: E-Conclave on Eco Agriculture Revolution. Agriculture Today, New Delhi, India. Online. 8 July 2020. Article available: <http://www.agriculturetoday.in/magazine/2020/magazine-aug-2020.pdf>
92. Lal, R. 2020. Managing Soil Health for Sustainable Food and Agriculture in India. Amity Food and Agriculture Foundation Webinar Series. Amity University, Uttar Pradesh, India. Online. 10 July 2020. <https://www.youtube.com/watch?v=2OTBL2QYQoA&feature=youtu.be>
93. Lal, R. 2020. Soil and Sustainable Development. TEDx pause ... COUNTDOWN 2020. Session #2 Food. TEDx Vail, Colorado, USA. Online. 15 July 2020.
94. Lal, R. 2020. IICA Award Ceremony. Conferral of the IICA Chair and Goodwill Ambassador Titles on Professor Rattan Lal. Inter-American Institute for Cooperation on Agriculture (IICA), San José, Costa Rica. Online. 17 July 2020.
95. Lal, R. 2020. Tenets of Climate Resilient Agriculture in Drylands. Online Policy Dialogue on Development of Climate-Resilient Agriculture. PMAS-AAUR: Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan. Recorded. . 21st July 2020.
96. Lal, R. 2020. Soil Science in Sustainable Food Systems Beyond COVID-19. Felicitation Program for Dr. Rattan Lal. Indian Institute of Soil Science (IISS-ICAR), National Academy of Agricultural Sciences, Indian Society of Soil Science, Bhopal, Madhya Pradesh, India. Online. 21st July 2020.
97. Lal, R. 2020. The Climate Crisis and Its Solutions: Question and Answer Session #1. Climate Reality Leadership Corps: Global Training. Climate Reality Project. Washington, DC, USA. Panelist. Recorded. 22nd July 2020.
98. Lal, R. 2020. Achieving Zero Net Land Degradation by 2030 in Developing Countries. Achieving Land Degradation Neutrality. Indian Association of Soil and Water Conservationists (IASWC), Indian Institute of Soil and Water Conservation (ICAR), Indian Council of Forestry Research and Education, Dehradun, India. Online. 22nd July 2020.
99. Lal, R. 2020. Status and challenges of global soil carbon sequestration. Food and Agricultural Organization of the United Nations (FAO). Rome, Italy. Online. Panelist. 24 July 2020.
100. Lal, R. 2020. Conservation to Sequester Carbon. Expanding Horizons: Where Conservation Meets Innovation. SWCS 75 International Annual Conference. Soil and Water Conservation Society, Ankeny, Iowa, USA. Online. 28 July 2020.
101. Lal, R. 2020. Can Farming Help Stop Climate Change? Patagonia Action Works. Regenerative Organic Patagonia UK Media Event Launch. London, UK. Panelist. Online. 29 July 2020.

102. Lal, R. 2020. Sustainable Management of Finite Soil Resources. Sustainable Agriculture and Natural Climate Solutions. Evangelical Environmental Network, New Freedom, Pennsylvania, USA. Online. 30 July 2020.
103. Lal, R. 2020. We Have a Growing Problem. Patagonia. Panelist. Online, USA. Available: <https://regenerativeorganic.splashthat.com/>. 6 August 2020.
104. Lal, R. 2020. Soil-Centric Approach to Realize India's Ever-Green Revolution. Virtual Consultation Science for Resilient Food, Nutrition, and Livelihoods: Contemporary Challenges. M.S. Swaminathan Research Foundation (MSSRF). Online, India. Available: <https://www.mssrf.org/content/session-3-special-lecture>. 7 August 2020.
105. Lal, R. 2020. Long-term Experiments for Assessing Soil Carbon Sequestration. Endowment Lecture, School of Post Graduate Studies. Tamil Nadu Agricultural University, Coimbatore, India. Online. 14 August 2020.
106. Lal, R. 2020. Making Soil Health a Food Systems Priority. Emerging Leaders in Food & Ag Awards and Conference. USA. Online. 18th August 2020.
107. Lal, R. 2020. Soil-Centric Green Revolution: A Paradigm Shift. Felicitation Program & Webinar. Punjab Agricultural University, Ludhiana, India. Online. 19th August 2020.
108. Lal, R. 2020. Soil and Climate. AFAF Webinar Series: 20th Webinar on Soil and Climate. Amity University, Uttar Pradesh, India. Online. 21 August 2020.
109. Lal, R. 2020. The importance of soil in the future of humanity. Always Alive, Always Green: XVIII Aapresid Virtual Congress. Argentine No-Till Farmers Association (AAPRESID), Santa Fe, Argentina. Online. 24 August 2020.
110. Lal, R. 2020. Fireside Chat with Sally Rockey at the Ag Innovation Showcase. 27th August 2020. Larta Institute, Los Angeles, California, USA. Online.
111. Lal, R. Food Production Systems to Sequester Soil Carbon and Offset Emissions. Monday Nutrition and Global Health Seminar Series. T.H. Chan School of Public Health, Harvard University, Cambridge, Massachusetts, USA. Online. 31 August 2020.
112. Lal, R. 2020. Soil health and soil organic matter as cornerstone of sustainable intensification challenges. Building the Second African Fertilizer Summit Agenda. African Green Revolution Forum (AGRF) with Michigan State University, Detroit, Michigan, USA. 7 September 2020.
113. Lal, R. 2020. Farming Carbon: Measurement and Monitoring Protocol. Azure Global Guest Speaker Series. Microsoft, Seattle, Washington, USA. 10th September 2020.
114. Lal, R. 2020. Soil Survey and Land Use Planning for Realizing Sustainable Development Goals of the United Nations. Felicitation to World Food Prize Laureate. Indian Society of Soil Survey and Land Use Planning (ISSLUP), Nagpur, Maharashtra, India. Online. 11 September 2020.
115. Lal, R. 2020. Climate-Resilient Agriculture for Sustainable Management of Natural Resources and Advancing Agenda 2030 of the United Nations. Resource Management and Biodiversity Conservation to Achieve Sustainable Development Goals. Academy of Natural Resource Conservation and Management (ANRCM), Lucknow, Uttar Pradesh, India. Online. 12 September 2020.

116. Lal, R. 2020. Soil Management for Food and Climate. Rotary Club: Virtual Meeting - Guest Speaker Series. Dublin/Worthington Rotary Club, Dublin, Ohio, USA. Online. 16 September 2020. Available: https://www.youtube.com/watch?v=BfvVPZ8I0kY&ab_channel=DWRotary.
117. Lal, R. 2020. Regenerative Food Production and the Rights of Soils. Resilience Lab on Regenerative Food. Part III Virtual Lab: “Transforming sectoral approaches to sustain long-term regenerative resilience.” Pathways 6, 7, 8. UNFCCC: Resilience Frontiers Initiative, Rome, Italy. Online. 17 September 2020.
118. Lal, R. 2020. Realizing Sustainable Development Goals by Regenerative Agriculture and Soil Organic Matter Management. Good Growth Plan. Syngenta Group with IICA, Uberlândia, Brazil, San José, Costa Rica. Online. 23 September 2020.
119. Lal, R. 2020. Sustainable Soil Management in Drylands of Rajasthan, India. International Webinar on Soils for Food and Climate. Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. Online. 28 September, 2020.
120. Lal, R. Soil: The Essence of Life on Our Planet. 30th Annual Online Organics Recycling Conference. IICA Canada and Compost Council of Canada. Online, Canada. 30 September, 2020.
121. Lal, R. Forgetting How to Tend the Soil. IUBS Centenary Webinar Series: Lecture 1. International Union of Biological Sciences (IUBS), Paris, France. Online. 2 October, 2020. Available: <https://council.science/events/rattan-lal/>.
122. Lal, R. 2020. Urbanization and Rights-of-Soil. 5 Urban Soils Symposium and Expo: Soils - The Living Fabric of Health. NYC Urban Soils Institute with RUDN University, Moscow, Russia, and TreePeople, LA. New York, New York, USA. Online. 2 October 2020.
123. Lal, R. 2020. Strengthening agricultural curricula in India. Inaugural Address for 111th Foundation Course (FOCARS). National Academy of Agricultural Research Management (NAARM) and Indian Council of Agricultural Research (ICAR), Hyderabad, India. Online. 5 October 2020.
124. Lal, R. 2020. Translating Science into Action with the Honorable Al Gore and World Food Prize Foundation President Barbara Stinson. World Food Prize Foundation (WFPF), Des Moines, Iowa, USA. Panelist. Online. 12 October 2020.
125. Lal, R. 2020. Carbon Sequestration, Sustainability in Agriculture and the Rise of Carbon Markets. 2020 Borlaug Dialogue Roundtable 1: Climate Change. World Food Prize Foundation (WFPF), Des Moines, Iowa, USA. Panelist. Online. 12 October 2020.
126. Lal, R. 2020. Carbon Farming for Food and Climate Security: Producing More from Less. Iowa State University Norman Borlaug Lecture. World Food Prize Foundation and Iowa State University, Ames, Iowa, USA. Online. 12 October 2020.
127. Lal, R. 2020. Global Youth Institute. World Food Prize Foundation (WFPF), Des Moines, Iowa, USA. Panelist. Online. 13 October 2020.
128. Lal, R. 2020. Priming Africa’s Agriculture. 2020 Borlaug Dialogue Side Event - Toward Sustainable Agriculture Productivity Soil Health, and Resilience in Africa: An agenda for research and action. African Green Revolution Forum (AGRF) with Michigan State University, Des Moines, Iowa, USA. Online. 13 October 2020.

129. Lal, R. 2020. 2020 Borlaug Dialogue World Food Prize Laureate Award Ceremony. 2020 Borlaug Dialogue, Des Moines, Iowa, USA. Online. Recorded. 15 October 2020.
130. Lal, R. 2020. Soil Health and Food Security in Sub-Saharan Africa. 2020 Borlaug Dialogue Side Event - Scaling Soils Restoration: Developing a Roadmap to Action. Catholic Relief Services (CRS) with The Chicago Council on Global Affairs (TCCGA) with Colorado State University (CSU), Des Moines, Iowa, USA. Online. 15 October 2020.
131. Lal, R. 2020. Resilient and Sustainable Food Systems for Achieving Global Food and Nutrition Security. 2020 Borlaug Dialogue Side Event - Building More Resilient and Sustainable Food Systems for Improved Global Food Security and Nutrition. Food and Agriculture Organization of the United Nations (FAO) North America and the Alliance to End Hunger, Des Moines, Iowa, USA. Online. 15 October 2020.
132. Lal, R. 2020. Sustainable Intensification of agriculture in Pakistan World Food Day Webinar: Grow Nourish & Sustain Together. Organisation of Islamic Cooperation's Standing Committee on Scientific and Technological Cooperation (COMSTECH) in association with UK-Pakistan Science and Innovation Global Network (UPSIGN) and Pakistan Administrative Service (PAS). Online, Pakistan. 16 October 2020.
133. Lal, R. 2020. Managing Soil Health for Food and Climate in Central Asia. Food Security: National and Global Drivers. Samarkand State University with the Food and Agriculture Organization (FAO) and the International Centre for Agricultural Research in the Dry Areas (ICARDA). Recorded. Columbus, Ohio, USA. 17 October 2020.
134. Lal, R. 2020. Regenerative agriculture for food and climate security. Virtual Summit on Resilient and Regenerative Food Systems. Sri Lanka Youth Climate Action Network (SLYCAN) Trust. Colombo, Sri Lanka. Online. 19 October 2020.
135. Lal, R. 2020. Adaptation and mitigation of climate change through soil-centric approaches. Inaugural Address for Ten Days Training Program on “Climate Risk Assessment and its Management through Agrometeorological Approaches.” Dryland Agriculture Research Station (DARS), Rangreth and Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (SKAUST), Kashmir, India. Online. 21 October 2020.
136. Lal, R. 2020. Inspiring Climate Action: What Can You(th) Do? 2020 Borlaug Dialogue Global Youth Institute, Des Moines, Iowa, USA. Panelist. Online. 21 October 2020.
137. Lal, R. 2020. Farming soils rather than crops and animals. Presentation to World Bank Affiliates. Online, USA. 27 October 2020.
138. Lal, R. 2020. Managing Soils of Agro-ecosystems for Adaptation to Extreme Weather Events. Day 8 of Ten Days Training Program on “Climate Risk Assessment and its Management through Agrometeorological Approaches.” Dryland Agriculture Research Station (DARS), Rangreth and Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (SKAUST), Kashmir, India. Online. 28th October 2020.
139. Lal, R. 2020. Innovative Agriculture Methods to Cater to a Changing Climate in Africa. Virtual DAAD climapAfrica Conference. Day Two. Bonn, Germany. Online. 30th October 2020.
140. Lal, R. 2020. Nourishing soil for the humanity and the planet. The (R)evolution Series: Nourish the Soil, Save the World. Maharishi International University, Fairfield, Iowa, USA. Online. 2 November 2020.

141. Lal, R. 2020. Climate Change, Global Agriculture, and Carbon Sequestration: Opportunities and Challenges. We Talk Science. South Dakota State University. Brookings, South Dakota, USA. Online. 3 November 2020.
142. Lal, R. 2020. Virtuous Agriculture: Enhancing Sustainability and Saving Land for Nature. Virtuous Agriculture Talk. World Coffee Research. Marseille, France and Portland, Oregon, USA. Online. 4 November 2020.
143. Lal, R. 2020. Group of Friends Meeting. UN Food Systems Summit. New York, New York, USA. Panelist. Online. 4 November 2020.
144. Lal, R. 2020. Agroecosystems for producing more from less: Improving soil health by managing organic matter content. World Science Day for Peace and Development: Agriculture Policy Debate, Episode 17. Pakistan Academy of Sciences. Islamabad, Pakistan. Online. 10 November 2020.
145. Lal, R. 2020. Putting Science Into Action: Financial Incentives to Sequester Carbon in Soil. Enabling Regenerative Agriculture: Getting Paid for Improving Soil Health. Cultivate Oregon's Soil Symposium. Talent, Oregon, USA. Online. Recorded. 10 November 2020.
146. Lal, R. 2020. Rethinking Human Development: UNDP Webinar. International Science Council-United Nations Development Programme (ISC-UNDP). Paris, France. Panelist. Online. 10 November 2020. <https://council.science/events/human-development-dialogue/>.
147. Lal, R. 2020. Soil and Spirituality. AASIO Annual Meeting at the 2020 ASA-CSSA-SSSA International Annual Meeting. Association of Agricultural Scientists of Indian Origin (AASIO). Madison, Wisconsin, USA. Online. 11 November 2020.
148. Lal, R. 2020. Agro-Ecosystems for Producing More From Less: Soil Health Organic Matter Content. 30 Aniversario Foro Virtual: Tendencias e Perspectivas de la Investigación e Innovación Agrícola. Fundación Fittacori, Costa Rica. Online. 12 November 2020.
149. Lal, R. 2020. Restoration of soil health for agricultural yields, natural resource conservation and climate change mitigation. Graduate Student Seminar Committee. Texas Tech University - Department of Plant and Soil Science (PSS), Lubbock, TX. Online. 12 November 2020.
150. Lal, R. 2020. Sustainable Agriculture: The Role of Plant Breeding Innovation. Institute on Science for Global Policy (ISGP). Washington, D.C. Panelist. Online. 17 November 2020.
151. Lal, R. 2020. Vision of the Future of African Agriculture. International Session: "Carbon, land, water and sustainable agricultural transition: what are the options and visions, from North to South?" French Academy of Agriculture. Paris, France. Online. Recorded. 18 November 2020.
152. Lal, R. 2020. "Enhancing Input Responsiveness of Soils of Sub-Saharan Enhancing Input Responsiveness of Soils Of Sub-Saharan Africa." 7th Annual ReNAPRI Stakeholder's Conference. Regional Network of Agricultural Policy Research Institutes (ReNAPRI), Lusaka, Zambia. Online. 19 November 2020.
153. Lal, R. 2020. Rethinking American Agriculture: Reducing Greenhouse Gas Emissions from Food Production. 2020 Charles Riley Memorial Lecture. American Association for the Advancement of Science (AAAS) and The Charles Valentine Rile Memorial Foundation (RMF) and the World Food Prize Foundation (WFPF), Washington, D.C., Ames, Iowa, and Des Moines, IA, USA. Moderator. Online. 19 November 2020.

154. Lal, R. 2020. Integrating livestock with crops and trees for climate-smart agriculture in India. NIANP Foundation Day Celebrations. ICAR-NIANP, Bengaluru, Karnataka, India. Online. 25 November 2020.
155. Lal, R. 2020. Farming carbon and ecosystem services. VI Northeastern Meeting of Soil Science. Federal Rural University of Pernambuco (UFRPE) - Graduate Program in Soil Science, Pernambuco, Brazil. Online. 1 December 2020.
156. Lal, R. 2020. The Role of Soil in Global Peace and Security. Acres USA Eco-Ag Conference Panel Session. Acres USA Eco-Ag Conference & Trade Show, Greeley CO, USA. Panelist. Online. 1 December 2020.
157. Lal, R. 2020. Press Conference for Living Soils in the Americas. Inter-American Institute for Cooperation on Agriculture (IICA), San José, Costa Rica. Online. 1 December 2020.
158. Lal, R. 2020. Soil health and its management. Cotton Webinars: WCRC-7 Monthly Plenary Lecture Series. International Cotton Advisory Committee (ICAC) and International Cotton Researchers Association (ICRA). Washington, D.C., USA. Online. Recorded. 2 December 2020.
159. Lal, R. 2020. Keep soil alive, protect biodiversity. World Soil Day Webinar: Keep soil alive, Protect soil biodiversity. FAO North America, Washington, D.C., USA. Online. 2 December 2020.
160. Lal, R. 2020. Enhanced Soil Carbon Farming as a Climate Solution: Carbon Farming. Enhanced Soil Carbon as a Climate Solution. Foundation for Food and Agriculture Research (FFAR). Online, USA. 3 December 2020.
161. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. World Soil Day. Ohio No-Till Conference, Plain City, Ohio, USA. Online. Recorded. 3 December 2020.
162. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. Tamil Nadu Agricultural University, Coimbatore, India. Online. Recorded. 4 December 2020. .
163. Lal, R. 2020. Living Soils in the Americas (LiSA). World Soils Day: Living Soils in the Americas. Inter-American Institute for Cooperation on Agriculture (IICA). USA. Online. 4 December 2020. <https://www.youtube.com/watch?v=D8K1KL8IeP0>
164. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. Soil Science Seminar: World Soil Day. The Ohio State University - Graduate Students. Online, USA. Recorded. 4 December 2020.
165. Lal, R. 2020. The importance of soil to humanity and the problem of soil degradation. World Soils Day Webinar Food System Friday. Prescott College. Online, USA. 4 December 2020.
166. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. World Soil Day Virtual Celebration. Soil Science Society of Nigeria. Online. Recorded. 5 December 2020.
167. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. World Soil Day. Bharat Krishak Samaj. Online. Recorded. 5 December 2020.
168. Lal, R. 2020. The World Soil Day: Perseverance, Opportunities, and Challenges. World Soil Day. Keep soil alive, Protect soil biodiversity. Kerala Agricultural University - Department of Soil Science and Agricultural Chemistry, Kerala, India Online. Recorded. 5 December 2020.

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e) Invited Keynote Presentations

49. Lal, R. 2019. A System Approach to Soil Carbon Sequestration for Food, Climate and Environment. Soil System Science Symposium, San Diego, California, USA. 6-9th January 2019.
50. Lal, R. 2019. Biochar: Potential and Challenges. Presentation to The Andersons Inc., Derby Hall, The Ohio State University, Columbus, Ohio, USA. 11th January 2019.
51. Lal, R. 2019. Adapting African Agriculture: the power of soil. Adaptation of African Agriculture (AAA) Initiative, First Annual Ministerial Conference, Rabat, Morocco. 16th January 2019.
52. Lal, R. 2019. Soil Surface Management for Carbon Sequestration. Combined Congress, Southern African Society for Horticultural Sciences (SASHS), the South African Society for Crop Production (SASCP) the Southern African Weed Science Society (SAWSS) and the Soil Science Society of South Africa (SSSSA), Bloemfontein, South Africa. 22-24th January 2019.
53. Lal, R. 2019. Recarbonizing Soils of Global Drylands. 13th International Conference on Development of Drylands, Jodhpur, India. 11-14th February 2019.
54. Lal, R. 2019. Soil Carbon Sequestration and Food Security. "Change Climate. Agro-ecology and Renewable Gas: Let's pave the way together", BIOGAS, Milan, Italy. 28th February 2019.
55. Lal, R. 2019. Soil Carbon Sequestration in Arid and Semi-Arid Climates. Soil Water and Environmental Science Colloquium Series, University of Arizona, Tucson, Arizona, USA. 11th March 2019.
56. Lal, R. 2019. Carbon Management and Sequestration Center Program Plans and Prospects, Byrd Polar and Climate Research Center, Columbus, Ohio, USA. 22nd March 2019.
57. Lal, R. 2019. Importance of Soil Carbon Management to Agricultural Sustainability and Climate Change Mitigation. Sustainability Institute Faculty Research Networking Event, Columbus, Ohio, USA. 28th March 2019.
58. Lal, R. 2019. Sustainable Soil Management for Global Food and Climate Security. The Japan Prize Commemorative Lecture, University of Tokyo, Japan. 10th April 2019.

59. Lal, R. 2019. Stop Soil Erosion: Save our Future. Panel Discussion, Global Symposium on Soil Erosion, FAO, Rome, Italy. 15-17th May 2019.
60. Lal, R. 2019. Strengthening Cooperation Between IUSS & USUNSS. Presentation at the USNCSS, NAS, Washington, D.C., USA. 29th May 2019.
61. Lal, R. 2019. The Soil Will Save Our Soul. On Food and Faith: Ministry in the Time of Climate Change, Methodist Theological School of Ohio, Delaware, Ohio, USA. 31st May 2019.
62. Lal, R. 2019. Potential and challenges of soil organic carbon sequestration through “4 per Thousand” initiative. Presented at “Food Security and Climate Change: 4 p 1000 New Tangible Initiative for Soil”, Pottier, France. 18-20 June 2019.
63. Lal, R. 2019. Soil Health and Food Security in Stark County. Presentation to the Hoover Foundation, Canton, Ohio, USA. 24th June 2019.
64. Lal, R. 2019. Managing soil health by carbon sequestration. 2nd Edition, Planet A Forum, Châlons-en-Champagne, France. 27-28 June 2019.
65. Lal, R. 2019. Closing Remarks: Economic, Ethical and Theological Approaches to Soil Protection. 2nd Edition, Planet A Forum, Châlons-en-Champagne, France. 27-28 June 2019.
66. Lal, R. 2019. IUSS Activities in Soil-Climate Education. Presentation at IUBS Centennial Celebration, Norwegian Academy of Science and Letters, Oslo, Norway. 30th July 2019.
67. Lal, R. 2019. Residue Management Plots in Ohio. Presentation at NC-1178 Committee Meeting, Fargo, South Dakota, USA. 25-26 July 2019.
68. Lal, R. 2019. The Rights of Soil. Presentation at NMBU, Norwegian University of Life Sciences, Ås, Norway. 1st August 2019.
69. Lal, R. 2019. Managing Soil Carbon for Food and Climate. Presentation at NMBU, Ås, Norway. 1st August 2019.
70. Lal, R. 2019. Summer Commencement Speech, 422nd Commencement, The Ohio State University, Columbus, OH, USA. 4th August 2019.
71. Lal, R. 2019. Managing agricultural soils for global food and climate security international conference on equality. Natural Resources, Agriculture and Society in a Changing Climate, Kathmandu, Nepal. 17-19 August 2019.
72. Lal, R. 2019. Managing Soils to Address Global Issues of the 21st Century. Presentation at the Faculty of Agronomic and Food Sciences, Pontifical Catholic University of Valparaíso, Quillota, Chile. 21st August 2019.
73. Lal, R. 2019. Eco-intensification of agro-ecosystems for food security and mitigation of climate change. Presented at the Special Symposium. How the soils can be utilized for Sustainable Development Goals, Science Council of Japan. Tokyo, Japan. 2nd September 2019.
74. Lal, R. 2019. Managing Soils for negative feedback to climate change and positive impact on food and nutrition security,. Annual meeting of the Japanese Society of Soil Science and Plant Nutrition, Shizuoka, Japan. 3-5 September 2019.

75. Lal, R. 2019. Carbon Storage in Soil in Relation to Climate Change. The Norwegian Academy of Sciences and Letters, Oslo, Norway. 23rd September 2019.
76. Lal, R. 2019. A Soil-Centric Green Revolution for the 21st Century, Carthage, Tennessee, USA. 14-15 October 2019.
77. Lal, R. 2019. Climate Positive Panel. World Food Prize Conference. Des Moines, Iowa, USA. 14-16 October 2019.
78. Lal, R. 2019. The Wholistic and Nexus Thinking to Address Complex Issues. Food, Energy, Water Systems Transdisciplinary Environmental Research Network, Seattle, Washington, USA. 26-28 October 2019.
79. Lal, R. 2019. Preparing Graduates to Be Leaders in Solving Global Environmental Challenges. Transforming Higher Education: GCHERA Conference. Nanjing, China. 28-29 October 2019.
80. Lal, R. 2019. Managing Soil and Natural Resources for Feeding and Greening Africa through the AAA Initiative. Published In (2020): Second Annual Ministerial Conference AAA: “Food security facing climate change.” "Proceedings of the Scientific Day, Adaptation of African Agriculture to Climate Change “From Science to Action.” 4-5 November 2019. University Mohammed VI Polytechnic (UM6P) Benguerir, AAA Initiative Foundation, Rabat, Morocco. pp.6-16.
81. Lal, R. 2019. Adaptation and Mitigation of Climate Change in India by Soil Conservation and Restoration. Soil and Water Resources Management for Climate Smart Agriculture and Global Food and Livelihood Security. New Delhi, India. 5-9 November 2019.
82. Lal, R. 2019. Climate Change Impacts on Soil Quality and Soil Degradation. SSSA Special Symposium on Soil Chemistry and Climate Change. Embracing the Digital Environment, ASA-SSA-CSA International Annual Meeting. San Antonio, Texas, USA. 11-14 November 2019.
83. Lal, R. 2019. Relevance of Science to Agriculture and Climate Change in the LAC Region. COP25. Madrid, Spain. 3-5 December 2019.
84. Lal, R. Managing Forests and Agriculture in Indonesia for Food and Climate. Jakarta, Indonesia. 11-12 December 2019.
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86. Lorenz, K. and R. Lal. 2019. Achieving United Nations’ Sustainable Development Goals by soil management. Soil Science Research Symposium. Kottman Hall. The Ohio State University. Columbus, Ohio, USA. 28th March 2019.

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d) Chapters in Multi-Authored Books

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e) Invited Keynote Presentations

72. Lal, R. 2018. Soil carbon and climate change. Moonlight on the Marsh Lecture, Florida Gulf Coast University, Naples, Florida, USA. 1st March 2018.
73. Lal, R. 2018. Agriculture and the environment. IARI, New Delhi, India. 12th March 2018.
74. Lal, R. 2018. Managing agricultural soils of Pakistan for food and climate. International 17th Congress of Soil Science, Soil Science Society of Pakistan, Faisalabad, Pakistan. 13-15th March 2018.
75. Lal, R. 2018. Soil degradation in India and the Positive Role of Plant Breeding. Rao Bahadur Dr. Ram Dhan Singh Memorial Lecture, HAU, Hisar, India. 14th March 2018.
76. Lal, R. 2018. Soil organic carbon and climate change. Maharishi Dayanand University, Rohtak, India. 14th March 2018.
77. Lal, R. 2018. Managing soil carbon for food and climate. University of Cost Rica, San José, Costa Rica. 5th April 2018.
78. Lal, R. 2018. Soil health and India's agriculture. TAAS, New Delhi, India. 12th April 2018.
79. Lal, R. 2018. Managing soils in the world of 11 billion people. PhilRice, Muñoz, Philippines. 19th April 2018.
80. Lal, R. 2018. Managing urban soils for food and environment. SUITMA 9, Moscow, Russia. 22-26th May 2018.
81. Lal, R. 2018. Measurements and monitoring of soil organic carbon stocks. Beijing, China. 28th May 2018.
82. Lal, R. 2018. Historical evolution of agriculture and soil management in China. Hefei, Annuhi Province, China. 30th May 2018.
83. Lal, R. 2018. Soil-centric approach to advancing global food security. GIFS, 18th June 2018, Saskatoon, Canada.
84. Lal, R. 2018. Soil organic carbon for climate, food, and other ecosystem services. French Embassy, Washington, D.C., USA. 19th June 2018.
85. Lal, R. 2018. Agroecological approach to soil health. Planet A Conference, Châlons-en-Champagne, France. 27-28 June 2018.

86. Lal, R. 2018. Soil as the keystone of mitigation and adaptation of climate change. Universidad Internacional Menéndez Pelayo (UIMP), Santander, Spain. 24-25 July 2018.
87. Lal, R. 2018. Beyond food and fuel: The power of soil to address global issues, keynote presentation. 21 WCSS, Rio de Janeiro, Brazil. 13th August 2018.
88. Lal, R. 2018. Bringing soil science to society. 21WCSS, Rio de Janeiro, Brazil. 12-18 August 2018.
89. Lal, R. 2018. Brining soil science to society. 21WCSS, Rio de Janeiro, Brazil. 12-18 August 2018.
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91. Lal, R. 2018. Evolution of conservation agriculture. 21st ISTRO Conference, Paris, France. 24-27 September 2018.
92. Lal, R. 2018. Managing soil health for eco-intensification of agro-ecosystems, Patagonia headquarters, Ventura, California, USA. 5 September 2018.
93. Lal, R. 2018. Power of soil and global issues. 54th annual Nobel Conference, Gustavus Adolphus College, Saint Peter, Minnesota, USA. 1-3 October 2018.
94. Lal, R. 2018. Managing soil health and functionality. Sixth Annual Great Lakes Regional Conference, Toledo, Ohio, USA. 7 October 2018.
95. Lal, R. 2018. Soil management for healthy food and environment. “Soil Food Week”, Ecommunity Park. Oosterwolde, Netherlands. 9-14 October 2018.
96. Lal, R. 2018. Managing world soils for confronting the challenges of climate change. The Beckman Institute, University of Illinois, Champaign-Urbana, Illinois, USA. 16 October 2018.
97. Lal, R. 2018. No-till farming for sustainable intensification of agro-ecosystems. Capacity Building for Managing Climate Change in Malawi Conference, Lilongwe, Malawi. 16-18 October 2018.
98. Lal, R. 2018. Conservation agriculture. Ministry of agriculture and rural affairs (MARA), China, Ohio State University, Columbus, Ohio, USA. 22nd October 2018.
99. Lal, R. 2018. Managing soils and advance world agriculture. 5th GUCHERA World Agriculture Prize, Nanjing, China. 28th October 2018.
100. Lal, R. M. Erbaugh, D.O. Hansen. 2018. Creating World Class Teaching: Learning and Academic Ambience in Agricultural Universities in India. IAUA Golden Jubilee Conference, ICAR, New Delhi, India. 23-25 November 2018.
101. Lal, R. 2018. Sustainable soil management as a solution to soil pollution. World Soil Day, FAO, Rome. Italy. 5th December 2018.

f) Miscellaneous

102. Srinivasarao, Ch., S. Kundu, A. Whitebread, R. Lal, T. Mahapatra. 2018. Drought mitigation through soil organic carbon improvement in tropical rainfed crop production systems of India. Abstract, 21st World Congress of Soil Sciences, 12-17 August 2018, Rio de Janeiro, Brazil.

IUSS Monthly Letters

103. Lal, R. 2018. Ex Nihilo Nihil Fit, 1st January 2018.
104. Lal, R. 2018. Soil: The Hidden Treasure of Nature. 1st February 2018.
105. Lal, R. 2018. We Are A Soil. 1st March 2018.
106. Lal, R. 2018. The Glamour of Soil Science. 1st April 2018.
107. Lal, R. 2018. Soil Degradation: The Case of Human Parasitism. 1st May 2018.
108. Lal, R. 2018. Soil: The Urbanization Challenge. 1st June 2018.
109. Lal, R. 2018. Drylands. 1st July 2018.
110. Lal, R. 2018. Beyond Food and Fuel: The Power of Soil to Address Global Issues. 12th August
111. 2018.
112. Lal, R. 2018. Did the stone age end because the world ran out of stone? 1st August 2018.
113. Lal, R. 2018. Drought and ancient civilization. 1st September 2018.
114. Lal, R. 2018. Global food and nutritional security. 1st October 2018.
115. Lal, R. 2018. The soil centric agricultural reformation. 1st November 2018.
116. Lal, R. 2018. Soil Pollution. 1st December 2018.
117. Lal, R. 2018. Making Soils of Agro-ecosystems Emission Negative. 26th December 2018.

a) Books Written

1. Ussiri, D.A.N, R. Lal. 2017. Carbon Sequestration for Climate Change Mitigation and Adaptation. Springer, Cham, Switzerland. 549 pp. ISBN: 978-3-319-53845-7 <https://doi.org/10.1007/978-3-319-53845-7>

b) Books Edited

2. Lal, R. & B.A. Stewart (Eds). 2017. Soil Phosphorus. CRC Press, Boca Raton, Florida, 351 pp. ISBN: 9781315372327 <https://doi.org/10.1201/9781315372327>
3. Lal, R. & B.A. Stewart (Eds). 2017. Urban Soils. Taylor & Francis, Boca Raton, Florida, 422 pp. ISBN: 9781315154251 <https://doi.org/10.1201/9781315154251>
4. Sejian, V., R. Bhatta, J. Gaughan, P.K. Malik, S.M.K Naqvi, R. Lal (Eds). 2017. Sheep Production Adapting to Climate Change. Springer, Singapore, 441 pp. ISBN: 978-981-10-4714-5 <https://doi.org/10.1007/978-981-10-4714-5>

c) Refereed Journal Articles

5. Anghinoni, G., C.A. Tormena, R. Lal, W.H. Moreria, E.B. Júnior, C.J.B. Ferreira. 2017. Within cropping season changes in soil physical properties under no-till in Southern Brazil. *Soil and Tillage Research* 166, 108-112. <https://doi.org/10.1016/j.still.2016.10.015>
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d) Chapters in Multi-Authored Books

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63. Sejian, V., R. Bhatta, J. Gaughan, P.K. Malik, S.M.K. Naqui, and R. Lal. 2017. Chapter 1. “Adapting sheep production to climate change.” In V. Sejian, R. Bhatta, J. Goughan, P.K. Malik, S.M.K. Naqui and R. Lal (Eds) Sheep Production Adapting to Climate Change. Springer, Singapore. pp. 1-30. ISBN: 978-981-10-4714-5 <https://doi.org/10.1007/978-981-10-4714-5>
64. Sejian, V., R. Bhatta, J. Gaughan, P.K. Malik, S.M.K. Naqui, and R. Lal. 2017. “Adapting sheep production to climate change: Conclusions and Researchable Priorities.” Chapter 21. In V. Sejian, R. Bhatta, J. Goughan, P.K. Malik, S.M.K. Naqui and R. Lal (Eds) Sheep Production Adapting to Climate Change. Springer, Singapore. pp. 431-441. ISBN: 978-981-10-4714-5 <https://doi.org/10.1007/978-981-10-4714-5>
65. Zdruli, P., R. Lal, M. Cherlet, S. Kapur. 2017. New world atlas of desertification and issues of carbon sequestration, organic carbon stocks, nutrient depletion and implications for food security. In S. Ersahin, S. Kapur, A. Erhan, A. Namli, H.E. Erdogan (Eds) Carbon Management, Technologies, and Trends in Mediterranean Ecosystems. Springer, Cham, Switzerland, pp.13-25. ISBN: 978-3-319-45035-3 https://doi.org/10.1007/978-3-319-45035-3_10

e) Invited Keynote Presentations

66. Lal, R. 2017. Soil carbon sequestration: technical potential and options. IUSS award presentation, Paris, France, 6 January 2017.
67. Lal, R. 2017. Soil as a nexus tool. FEW Nexus Workshop, Texas A&M University, College Station, Texas. 25-27 January 2017.
68. Lal, R. 2017. Soil health and carbon sequestration. Dannon Workshop on Soil Health, White Plains, New York. 2 February 2017.
69. Lal, R. 2017. Soils, climate change and security: the role of South-South Cooperation, Crans Montana Forum on Africa and South-South Cooperation, Dakhla, Morocco. 16-21 March 2017.
70. Lal, R. 2017. Soil organic carbon sequestration: importance and state of science. Global Symposium on Soil Organic Carbon, Rome, Italy. 20-23 March 2017.
71. Lal, R. 2017. Climate change and agriculture production: adapting crops to increased climate variability and uncertainty. Bihar Agricultural University, Sabour, Bhagalpur, India. 6-8 April 2017.
72. Lal, R. 2017. The Food-Energy-Water-Waste nexus in India. Waste Management Innovation Conference, Mumbai, India. 17-18 April 2017.

73. Lal, R. 2017. Linking science and research results with large-scale impact in dry areas for sustainable development under climate change. International Center for Agricultural Research in the Dry Areas (ICARDA) National Agricultural Research Systems Consultation Meeting, Rabat, Morocco. 1-3 May 2017
74. Lal, R. 2017. Science and practice of soil carbon sequestration. Sequestering Carbon in Soils: Addressing the Climate Threat, Paris, France. 3-5 May 2017.
75. Lal, R. 2017. Sustainability & Soil-Water-Waste nexus. Global Soils Week, Berlin, Germany. 22-24 May 2017.
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e) Invited Keynote Presentations

97. Lal, R. 2016. The Soil-Water-Food Nexus. NCSE Conference, Washington DC, USA. 18-20 January 2016.
98. Lal, R. 2016. Soil research in the Joint Programming Initiative on Agriculture, Food Security and Climate Change FACCE-JPI. FACCE-JPI Pre-Event on International Soil Research, Brussels, Belgium. 27 January 2016.
99. Lal, R. 2016. International Union of Soil Science. FACCE-JPI Pre-Event on International Soil Research, Brussels, Belgium. 27 January 2016.
100. Lal, R. 2016. Solutions Under Foot: Can Soil Save Us from Ourselves. School of Earth Science, The Ohio State University, Columbus, OH, USA. 25 February 2016.
101. Lal, R. 2016. Tenets of Soil Quality Management. Pakistan

102. Lal, R. 2016. Soil Health and Environmental Management for Sustainable Agricultural Production Systems. International Conference on Pulses for Health, Nutrition and Sustainable Agriculture in Drylands. Marrakesh, Morocco. 18-20 April 2016.
103. Lal, R. 2016. Environment and Agriculture. Federal University of Mato Grosso (UFMT), Cuiaba, Brazil. 9-13 May 2016.
104. Lal, R. 2016. Evolution of Conservation Agriculture. Federal University of Mato Grosso (UFMT), Cuiaba, Brazil. 9-13 May 2016.
105. Lal, R. 2016. The Ohio State University. Federal University of Mato Grosso (UFMT), Cuiaba, Brazil. 9-13 May 2016.
106. Lal, R. 2016. Soil C for Climate Change, Food Security and SDGs of the U.N. FACCE-JPI Meeting, Brussels, Belgium. 30-31 May 2016.
107. Lal, R. 2016. Soils and World Food Security. GIFS Conference, Saskatoon, Canada. 14-16 June.
108. Lal, R. 2016. Soil Health and Sustainability. GIFS Conference, Saskatoon, Canada. 14-16 June.
109. Lal, R. 2016. Soil Carbon Sequestration: Science & Implementation of the “4 per Thousand Initiative” on U.S. Croplands and Grasslands. C-AGG Meeting, Denver, Colorado, USA. 12-13 July 2016.
110. Lal, R. 2016. Conservation Agriculture in Sub-Saharan Africa. The Annual CA Conference, Capetown, South Africa, 1-5 August 2016.
111. Lal, R. 2016. Conserving Soil and Water Resources for Climate-Resilient Agriculture. 3rd World Association of the Soil and Water Conservation (WASWAC) World Conference, Belgrade, Serbia. 22-26 August 2016.
112. Lal, R. 2016. Managing Soil for Mitigating Climate Change and Advancing Food Security. OARDC, Wooster, Ohio, USA. 9 August 2016.
113. Lal, R. 2016. Soil Carbon Sequestration: Science, Rational & Implementation. Honda, Marysville, Ohio, USA. 23 September 2016.
114. Lal, R. 2016. Sustainable and Resilient Soil Management in Climate Context. Marrakesh, Morocco, 30 September 2016
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116. Lal, R. 2016. Soil Carbon Sequestration: Technical Potential and Options, High Level Meeting on Climate Friendly Landscape, Clarence House, London, U.K. 26 October 2016
117. Lal, R. 2016. Sustainable Landscape Management in Changing Climate. India, November 2016
118. Lal, R. 2016. Sustainable Management and Carbon Sequestration in Soils of Africa. COP22, Marrakesh, Morocco, 7-18 November 2016
119. Lal, R. 2016. Soil Science: Beyond Food and Fuel. IUSS InterCongress Meeting, Rio de Janeiro, Brazil, 20-25 November 2016

120. Lal, R. 2016. Nexus Thinking on Soil Carbon Dynamics and Soil Health. AGU Meeting, San Francisco, CA, USA. 12 December 2016
121. Lal, R and W. Horwath. 2016. Agricultural Carbon Sinks. AGU Meeting, San Francisco, CA, USA 14 December 2016.

f) Voluntary Contributions

122. Munoz, M.A., J.G. Guzman, R. Zornoza, F. Moreno, A. Faz, and R. Lal. 2016. Changes on aggregation in mine waste amended with biochar and marble mud. EGU Assembly, April 2016.
123. Alvarez, J. M., C. Pasian, R. Lal, R.López, M. Fernandez. 2016. Respuesta fisiológica de las plantas cuando biochar y vermicompost son utilizados como sustituto parcial de la turba en la producción de planta ornamental. In V Jornadas Técnicas Red Española del Compostaje. REC, 18 November, Seville, Spain.
124. Vilmundardóttir, O.K., G. Gísladóttir, R. Lal. 2016. New land, new opportunities. Vegetation succession and soil formation within the heterogeneous moraines formed by the Skaftafellsjökull and Breiðamerkurjökull outlet glaciers in Southeast Iceland. EGU General Assembly 2016, held 17-22 April, 2016 in Vienna Austria, p.14240

g) Miscellaneous

125. Lal, R. 2016. The Soil-Energy-Water-Carbon Nexus for Sustainable Soil Management
126. Lal, R. 2016. Urban Agriculture and Food Security.
127. Lal, R. 2016. Ancient Soils, Modern Needs Our soil management journey continues. Farm Journal
128. Lal, R. 2016. Soils and Climate change: is the solution to CO₂ under our feet? Farm Journal
129. Lal, R. 2016. Soil Carbon Sequestration Potential of Degraded Lands
130. Lal, R. 2016. Soil health and carbon sequestration. The California Environmental Health Initiative

*a) Books Written**b) Books Edited*

1. Lal, R., B.R. Singh, D.L. Mwaseba, D. Kraybill, D.O. Hansen, L.O. Eik (Eds). 2015. Sustainable Intensification to Advance Food Security and Enhance Climate Resilience in Africa. Springer, Cham, Switzerland, 665 pp. ISBN: 978-3-319-09360-4 <https://doi.org/10.1007/978-3-319-09360-4>
2. Lal, R. and B.A. Stewart (Eds.). 2016. Soil-Specific Farming: Precision Agriculture, CRC Press, Boca Raton, Florida, 431 pp. ISBN: 9780429172496 <https://doi.org/10.1201/b18759>

c) Refereed Journal Articles

3. Antille, D.L., W.C.T. Chamen, J.N. Tullberg, R. Lal. 2015. The Potential of controlled traffic farming to mitigate greenhouse gas emissions and enhance carbon sequestration in arable land: a critical review. Transactions of the ASABE 58(3), 707-731. <https://www.doi.org/10.13031/trans.58.11049>
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d) Chapters in Multi-Authored Books

47. Bhattacharyya, R., S.S. Kukal, S. Kundu, J.K. Saha, M. Shrivastava, R. Lal. 2015. Management of urban soils. In H. Pathak, S.K. Sanyal, P.N., Takkar (Eds) "State of Indian Agriculture: Soil" National Academy of Agricultural Sciences, New Delhi, 215-233.
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e) Invited Keynote Presentations

86. Lal, R. 2015. Soil and Society. Alberta Soil Science Workshop, Edmonton, Canada, February 17-19, 2015.
87. Lal, R. 2015. Soil and Global Peace. 39th annual conference of the Soil Science Society of Nigeria, Owerri, Nigeria, 9-13 March 2015.
88. Lal, R. 2015. Soil Carbon Sequestration and Climate Change. VIII Costa Rican Soil Science Congress, San José, Cost Rica, 18-20 March 2015.
89. Lal, R. 2015. Beyond DNC-2015. Dresden Nexus Conference, Dresden, Germany, 25-27 March 2015.
90. Lal, R. 2015. Soil Security and Carbon Sequestration. Malaysian Society of Soil Science, Soil Security for Increasing Crop Production, Kuala Lumpur, Malaysia, 7-8 April 2015
91. Lal, R. 2015. Challenges of Measuring and Managing Soil C Sink for Mitigating Climate Change. Global Soil Week 2015, Berlin, Germany, 20-23 April 2015 .
92. Lal, R. 2015. Soil as a Sink of Atmospheric CO₂ and CH₄. Global Soil Week 2015, Berlin, Germany. 20-23 April 2015

93. Lal, R. 2015. Global Issues and IUSS. U.S. National Committee for Soil Science, Washington D.C., 7-8 May, 2015.
94. Lal, R. 2015. Environmental Sustainability. International Conference on Climate Change and Multi-dimensional Sustainability in African Agriculture, Morogorro, Tanzania, 3-5 June, 2015
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97. Lal, R. 2015. Global Issues and IUSS. International Conference on Climate Change and Multi-dimensional Sustainability in African Agriculture, Morogorro, Tanzania, 3-5 June, 2015
98. Lal, R. 2015. Achieving Emission Neutrality in Australia by Managing Terrestrial Carbon Pool and Using Nuclear Energy. National Workshop on Nuclear Energy for Australia, Cooperative Research Center for Contamination Assessment and Remediation of the Environment (CRC-CARE) National Workshop on Nuclear Energy for Australia, Adelaide, Australia, 16 June, 2015.
99. Lal, R. 2015. Carbon Sequestration in Soils: A Challenge for Food Security and Climate Action. INRA, Paris, France, 7th July 2015
100. Lal, R. 2015. Soil Quality. Annual CS-CAP Meeting, Lied Lodge, NE, USA 3-5 August 2015.
101. Lal, R. 2015. Soil Carbon Pool as an Environmental Indicator. International Conference on Environmental Indicators (ICEI), Windsor, Canada, 2-5 August 2015.
102. Lal, R. 2015. Integrated Resource Management for Efficient Food Production. International Soil Conference on "Sustainable Uses of Soil in Harmony with Food Security (ISC2015), Phetchaburi Province, Thailand, 18-21 August 2015.
103. Lal, R. 2015. Soil Science and Societal Challenges in the FACCE Remit. Thematic Annual Programming on Improving Soil Quality Workshop. FACCE-JPI Wageningen, Netherlands 24th August 2015.
104. Lal, R. 2015. Saving Oil by Managing Soil. Soil Not Oil International Conference, Richmond, California, 4-5 September 2015.
105. Lal, R. 2015. Soil and Sustainability. Annual Meeting of the Japanese Society of Soil Science, Kyoto, Japan, 9-11 September 2015
106. Lal, R. 2015. Future Priorities in Soil Science. Annual Meeting of the Japanese Society of Soil Science, Kyoto, Japan, 9-11 September 2015
107. Lal, R. 2015. Soil Restoration for Ecosystem Services. IUSS Sustain 2015 Conference, University of Kiel, Germany, 21-24 September 2015.
108. Lal, R. 2015. The Societal Value of Soil Organic Matter and Ecosystem Services. 5th International Symposium on Soil Organic Matter, Göttingen, Germany 20-24 September 2015.

109. Lal, R. 2015. Land Use Effects on Coupled Cycling of Carbon and Water in a Changing Climate. Honorary Doctorate Award Ceremony, Technical University, Dresden Germany 23rd September 2015.
110. Lal, R. 2015. Evolution of Conservation Agriculture. Institute of Soil and Water Conservation, CAS&MWR, Yangling, Xian, China, 14 October 2015.
111. Lal, R. 2015. Soil science in the 21st century. International Youth Forum on Soil and Water Conservation, Nanchang, Jianxi, China 16-18 October 2015.
112. Lal, R. 2015. Solutions Underfoot: The Power of Soils. Austrian Academy of Science, Vienna, Austria. 2 November 2015.
113. Lal, R. 2015. Carbon Storage and Dynamics in Urban Soils. SSSA Annual Meeting, Minneapolis, MN, USA 16 November 2015
114. Lal, R. 2015. International Context of SOC Sequestration. FACCE-JPI Meeting. Dublin, Ireland, 16-17 November 2015.
115. Lal, R. 2015. Inter-Connectivity and Sustainability TAMUS-Resource Nexus: Water Forum. San Antonio, Texas, USA. 17-18 November 2015.
116. Lal, R. 2015. Land Degradation. IFPRI Policy Seminar, Washington, DC, USA. 3 December 2015
117. Lal, R. 2015. Sustainable Management of Agricultural Soils. KFRI, Peechi, Thrissur, India, 10-11 December 2015
118. Lal, R. 2015. Soil carbon sequestration and management to mitigate climate change. 1st International Conference “Afro-Mediterranean Soils: Constraints and Potentialities for Durable Management”. Marrakech, Morocco, 18-19 December 2015.

f) Voluntary Contributions

119. Alvarez, J.M., C. Pasian, R. Lal, R. Lopez, M. Fernandez. 2015. Biochar and vermicompost as peat replacement for ornamental-plant production. Poster
120. Stout, B., R. Lal, C. Monger. 2015. Carbon capture and sequestration (CCS): The role of agriculture in soils. ASABE 1st Climate Change Symposium: Adaptation and Mitigation. Chicago, IL, 3-5 May 2015.

g) Miscellaneous

a) *Books Written*b) *Books Edited*

1. Lal, R. and B. A. Stewart (Eds.). 2014. Soil Management of Smallholder Agriculture: Advances In Soil Science Vol. VI. CRC Press, Boca Raton, Florida. 420pp. ISBN: 9780429169854
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c) *Refereed Journal Articles*

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15. de Paul Obade, V., & Lal R. 2014. Using meta-analyses to assess pedo-variability under different land uses and soil management in central Ohio, USA. *Geoderma* 232–234: 56-68.
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64. Lal, R. 2013. The nexus approach to managing water, soil and waste under changing climate and growing demands on natural resources. In UNU-FLORES "Advancing a nexus approach to the sustainable management of water, soil and waste: White Book." UNU-FLORES, 19-40pp.
65. Lal, R. 2013. Vulnerability of Agroecosystems to Environmental Factors. In: Seastedt, TR and Suding KN (Eds.) "Climate Vulnerability: Understanding and addressing threats to essential resources. Volume 4. Vulnerability of Ecosystems to Climate". Elsevier Press, NY 109-116
66. Lal, R., Lorenz, K., Hüttl, R.F., Schneider, B.U., von Braun, J. 2013. Societal Dependence on Soil's Ecosystem Services. In Lal, R., Lorenz K., Hüttl, R.R.J., Schneider, B.U. and von Braun, J. (Eds). 2013. "Ecosystem Services and Carbon Sequestration in the Biosphere". Springer, Dordrecht, Netherlands: 1-10.
67. Lal, R., Lorenz, K., Hüttl, R.F., Schneider, B.U., von Braun, J. 2013. Research and Development Priorities for Global Soil-Related Policies and Programs. In Lal, R., Lorenz K., Hüttl, R.R.J., Schneider, B.U. and von Braun, J. (Eds). "Ecosystem Services and Carbon Sequestration in the Biosphere". Springer, Dordrecht, Netherlands: 431-455.

68. Lal, R., Stewart, B.A. 2013. Soil Management for Sustaining Ecosystem Services. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. Soil Sci. Taylor and Francis, Boca Raton, FL. 521-536 pp.
69. Ortas, I. and Lal, R. 2013. Food Security and Climate Change in West Asia. In M. Sivakumar et al. (Eds.) "Climate Change and Food Security in West Asia and North Africa", Springer, Dordrecht, Netherlands. 207-238 pp.
70. Qing, J., Xiangbin Kong, R. Lal 2013. Managing soil organic carbon concentration by cropping systems and fertilizer in the North China Plain. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. in Soil Sci. Taylor and Francis, Boca Raton, FL. 521-536 pp.
71. Qing, Jin, Kong, Xiangbin, Lal, R. 2013. Managing Soil Organic Carbon Concentration by Cropping Systems and Fertilizers in the North China Plain. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. Soil Sci. Taylor and Francis, Boca Raton, FL. 189-202 pp.
72. Sivakumar, MVK, Awawdeh, F., Haddad, N., Hamdan, I., Holderness, M., Lal, R., Ortas, I., Ramasamy, S. 2013. Adaptation Strategies for Different Sectors in the WANA Region – Summaries of Breakout Group Discussions. In M. Sivakumar et al. (Eds.) "Climate Change and Food Security in West Asia and North Africa", Springer, Dordrecht, Netherlands. 409-420 pp.
73. Srinivasarao, Ch; Venkateswarlu, B.; Lal, Rattan; et al. 2013. Sustainable Management of Soils of Dryland Ecosystems of India for Enhancing Agronomic Productivity and Sequestering Carbon. In *Advances In Agronomy*. Edited by Sparks, D.L . 121, 253-329. Waltham: Academic Press, 2013.
74. Srinivasarao, Ch., Venkateswarlu, B., Lal, Rattan, Singh, A.K., Kundu, Sumanta, Jakkula, Vijay Sandeep. 2013. Carbon Sink Capacity and Agronomic Productivity of Soils of Semiarid Regions in India. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. Soil Sci. Taylor and Francis, Boca Raton, FL. 423-476 pp.
75. Tenywa, Moses M., Zake, Julius Y.K., Lal, R. 2013. Building upon Traditional Knowledge to Enhance Resilience of Soils in Sub-Saharan Africa. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. Soil Sci. Taylor and Francis, Boca Raton, FL. 109-140 pp.
76. Zinn, Yuri L., Lal, R. 2013. Principles of Soil Management in Neotropical Savannas: The Brazilian Cerrado. In Lal, R. and Stewart, B.A. (Eds). "Principles of Sustainable Soil Management in Agroecosystems". Adv. Soil Sci. Taylor and Francis, Boca Raton, FL. 57-86 pp.

e) Invited Keynote Presentations

77. Lal, R. "Mitigating Climate Change and Achieving Food Security by Managing Soil". Agricultural Media Summit, Buffalo, New York, USA. 5 August 2013.
78. Lal, R. "Soil Stewardship". Caux Dialogue on Land and Security, Caux, Switzerland. 7-11 July 2013.
79. Lal, R. 2013. "Beyond Sustainable Intensification" SSSA Conference, Tampa, FL, USA. 3-6 November 2013.

80. Lal, R. 2013. "Climate Change and Agriculture". Columbus Club, Columbus, OH, USA. 10 October 2013.
81. Lal, R. 2013. "Climate Change and Agriculture". Explorer's Club, OSU Campus, Columbus, Ohio, USA. 17 August 2013.
82. Lal, R. 2013. "Climate Change and Agriculture". IB TOK Forum Event. Upper Arlington High School, Upper Arlington, OH, USA. 20 November 2013.
83. Lal, R. 2013. "Climate Change Recommendations" 2013 Borlaug Dialogue and Global Youth Institute, Des Moines, IA, USA. 16-19 October 2013.
84. Lal, R. 2013. "Climate Strategic Agriculture". Gamma Sigma Delta Annual Awards Ceremony, The Ohio State University, Columbus OH, USA. 12 April 2013.
85. Lal, R. 2013. "Comments of the Thread Ambassador" 2nd Global Soils Week: Losing Ground? Berlin, Germany 27-31 October 2013
86. Lal, R. 2013. "Conservation Agriculture in the Tropics". SANREM, Cambodia. 18 June 2013.
87. Lal, R. 2013. "Educating Future Agricultural Scientists and Academicians in India." Paper presented at the XI Agricultural Sciences Congress "Agricultural Education: Reshaping India's Future" Orissa University of Agriculture & Technology, Bhubaneswar, Odisha, India. 7-9 February 2013.
88. Lal, R. 2013. "Food Security and Climate Change". Rothamsted, U.K. 7 October 2013.
89. Lal, R. 2013. "Roles of Soil in Sustaining Society and the Environment" 2013 IUSS Meeting. Potsdam, Germany. 26-27 February 2013.
90. Lal, R. 2013. "Sequestration of Soil Carbon as Secondary Carbonates" AGU Fall Meeting. San Francisco, CA, USA. 9-13 December 2013.
91. Lal, R. 2013. "Soil Carbon Management for Climate Change". IUSS Global Soil Carbon Conference, International Union of Soil Sciences. Madison, WI, USA. 2-5 June 2013.
92. Lal, R. 2013. "Soil Carbon Sequestration" Nigerian Society of Soil Science, Nigeria. February 2013.
93. Lal, R. 2013. "Soil Carbon Sequestration". Soil Carbon Sequestration, for climate, food security and ecosystem services, Reykjavik, Iceland, 25-30 May 2013.
94. Lal, R. 2013. "Sustainable Agriculture and Natural Resources Management" Virginia Tech, Blacksburg, VA, USA. 4-6 April 2013.
95. Lal, R. 2013. "Sustainable Intensification To Address Climate Change and Advance Food Security In Africa" Sustainable Intensification To Address Climate Change and Advance Food Security In Africa. SAU, Morogo, Tanzania. 12-16 November 2013.
96. Lal, R. 2013. "The Water Nexus." 2013 Annual AAAS Conference: The Beauty and Benefits of Science. 14-18 February 2013. Boston, MA, USA.

97. Lal, R. 2013. "Towards Sustaining Agriculture." Institut de l'Agriculture Durable. Paris, France. 22-26 January 2013.

f) Voluntary Contributions

98. Araujo, M.A., Andrede, A.B., Zinn, Y.L., Lal, R., Bigham, J.M. 2013. Specific surface area and magnetic susceptibility related to the soil mineralogy in Southern Minas Gerias, Brazil. XXXIV Congresso Brasileiro de Ciência Do Solo, 28 July – 2 August 2013.
99. Beniston, J., Lal, R., Mercer, K. 2013. Soil quality evaluation of urban market gardens. ASA, CSSA & SSSA International Annual Meetings, Tampa Florida, 3-6 November 2013
100. DuPont, S.T.; J. Beniston, S.W. Culman, J. Glover, A. Hodson, R. Lal, H. Ferris. 2013. Perennial Roots: A Key Driver to Ecosystem Stability and Long Term Yield. Water, Food, Energy & Innovation for a Sustainable World. ASA, CSSA & SSSA International Annual Meetings, Tampa Florida. Nov. 3-6, 2013.
101. Gautam, S., S. Kumar, R. Lal, J. Bonta, J. Witter, Y. Xie, R. Moore, E. Mbonimpa, and S. Jiang. 2013. Apex Model Simulation of Runoff and Non-Point Source Pollutants From Watersheds Managed With No-Till Management. Presentation at the ASA-CSSA-SSSA. International Annual Meeting at Tampa, FL. November 03-06, 2013.
102. Lal, R., Spring, A., Welch, R. 2013. Sustainable Intensification Innovation Lab. Prospects and Opportunities: Recommendations by the EET of SANREM Innovation Lab. USAID/BFS.
103. Mukherjee, A., and Lal, R. 2013. Tillage-Effects on Quality of Two Contrasting Soils in Ohio; ASA, CSSA and SSSA Annual Meeting, Tampa, Florida, November 2–November 7, 2013 (poster).
104. Nakajima, T., Mukherjee, A., Lal, R., and Fausey, N.R. 2013. Impacts of Tillage and Drainage on Soil and Water Quality under Corn-based Cropping Systems; Climate & Corn-based Cropping Systems CAP Annual Meeting, West Lafayette, Purdue University, July 29-August 1, 2013 (poster).
105. Vincent Obade and Rattan Lal. A One Step Simplified Indicator for Rating Soil Quality. USDA CSCAP Annual Meeting, July 29th to August 1st, 2013 Location: Purdue University, West Lafayette, USA.
106. Vincent Obade and Rattan Lal. Using Meta Analyses to assess Pedo-variability under Different Land Uses and Soil Management in Central Ohio, USA. Water, Food, Energy and Innovation for a Sustainable World. ASA, CSSA and SSSA International Annual Meetings. 3- 6 November 2013. Location: Tampa Convention Center and the Marriott Tampa Waterside Hotel, Tampa, Florida, USA.
107. Zhang, H.L., Lal, R., Chen, F. 2013. Crop residue management and soil carbon sequestration in China. In: The Fourth International Symposium for Farming Systems Design, Lanzhou, Gansu Province, China, 19-22 August 2013. Gansu Science and Technology Press. 75-76.

*a) Books Written**b) Books Edited*

1. Lal, R. and B.A. Stewart (Eds.) 2012. Soil Water Management and Agronomic Productivity. CRC/Taylor and Francis. Boca Raton, FL, 568 pp.
2. Lal, R., K. Lorenz, R. Huttel, B.U. Schnieder and J. von Braun. (Eds) 2012. Recarbonization of the Biosphere. Springer Verlaag, Holland, 545 pp.
3. Sejian, V., J. Lakritz, T. Ezeji, and R. Lal. 2012. Environmental Stress and Amelioration in Livestock Production. Springer Verlaag, Holland, 569 pp.
4. Lal, R. and B. Augustin (Eds.) 2012. Carbon Sequestration in Urban Ecosystems. Springer, Dordrecht, Netherlands, 383 pp.
5. Lal, R. and B.A. Stewart (Eds.). 2012. World Soil Resource and Food Security. CRC/Taylor and Francis. Boca Raton, FL, 560 pp.

c) Refereed Journal Articles

6. Adhikari, S., R. Lal and B.C. Sahu. 2012. Carbon sequestration in the bottom sediments of aquaculture ponds of Orissa. *Ecol. Eng.* 47:198-202.
7. Ambachew Demessie, Bal Ram Singh, Rattan Lal & Line Tau Strand. 2012. Leaf litter fall and litter decomposition under Eucalyptus and coniferous plantations in Gambo District, southern Ethiopia, *Acta Agriculturae Scandinavica, Section B* – *Soil & Plant Science*, 62:5, 467-476. <http://dx.doi.org/10.1080/09064710.2011.645497>
8. Bonin, C. and Lal, R. 2012. Physical properties of an Alfisol under biofuels crops in Ohio *J. Technol. Innovations Renewable Energy*, 1, 1-13.
9. Bonin, C. and R. Lal. 2012. Agronomic and ecological implications of biofuels. *Adv. Agron.* 117:1-50.
10. Bonin, C. and R. Lal. 2012. Bioethanol potentials and life-cycle assessments of biofuel feedstocks. *Crit. Rev. Plant Sci.* 31:271-289.
11. Bonin, C., R. Lal, M. Schmitz and S. Wullschlagger. 2012. Soil physical and hydrological properties under three biofuel crops in Ohio. *Acta Agric. Scandinavia (B) - Soil & Plant Sciences.* 62(7): 595-603. Doi: 10.1080/09064710.2012.699309
12. Culman, S.W., S.S. Snapp, M.A. Freeman, M.E. Schipanski, J. Beniston, R. Lal et al. 2012. Towards greening of urban landscape. *Soil Sci. Soc. Am. J.* 76:494-504.

13. Demessie, A., B.R. Singh, T. Borreson, and R. Lal. 2012. Effect of eucalyptus and coniferous plantations on soil properties and quality in Gambo District, southern Ethiopia. *Acta Agric. Scandinavia (B) Soil & Plant Sci.* 62: 455-466.
14. Demmessie, A., B.R. Singh, R. Lal and T. Strand. 2012. Leaf litter fall and leaf decompositon under Eucalyptus and coniferous plantations in Gambo District, Southern Ethiopia. *Acte Agric. Scandinavia (B) Plant & Soil Sci.* 62: 467-476.
15. Feller, C., E. Blanchart, M. Bernoux, R. Lal and R. Manlay. 2012. Soil fertility concepts over the past two centuries: the importance attributed to soil organic matter in developed and developing countries. *Archives in Agron. & Soil Sci.* 58(suppl): 3-21.
16. Kahlon, M.S., N.R. Fausey and R. Lal. 2012. Tillage effects on corn soil-plant-water continuum in Alfisols of Southern Ohio. *J. Agric. Sci.* 4:35-47.
17. Koch, A., McBratney, A., and Lal, R. 2012. Global Soil Week: Put soil security on global agenda. *Nature.* 492:186.
18. Koch, Andrea; McBratney, Alex; Adams, Mark; Field, Damien; Hill, Robert; Lal, Rattan; Abbott, Lynette; Angers, Denis; Baldock, Jeffrey; Barbier, Edward; Binkley, Dan; Bird, Michael; Bouma, Johan; Chenu, Claire; Crawford, John; Butler Flora, Cornelia; Goulding, Keith; Gunwald, Sabine; Hempel, Jon; Jastrow, Julie; Lehmann, Johannes; Lorenz, Klaus; Minasny, Budiman; Morgan, Cristine; O'Donnell, Anthony; Parton, William; Rice, Charles; Wall, Diana; Whitehead, David; Young, Iain; Zimmermann, Michael. 2012. *Soil Security: Solving the Global Soil Crisis.* Global Policy.
19. Kong, X., B. Li, R. Lal, L. Han, H. Lei, K. Li, and Y. Bai. 2012. Soil Organic Carbon Stock And Crop Yields in Huang-Huai-Hai Plains, China. *J. Agric. Sci.* 4(12): 140-154.
20. Kumar, S., A. Kadono, R. Lal, and W. Dick. 2012. Long-Term Tillage and Crop Rotations for 47–49 Years Influences Hydrological Properties of Two Soils in Ohio. *Soil Sci. Soc. Am. J.* 76:1798-1809.
21. Kumar, S., Lal, R. and D. Liu. 2012. A geographical weighted regression kriging approach for mapping soil organic carbon stock. *Geoderma* 189:627-634.
22. Kumar, S., R. Lal and C.D. Lloyd. 2012. Assessing spatial variability in soil characteristics with geographically weighted principal components. *Computational Geosciences.* 16:3, 827-835.
23. Lal, R. 2012. Climate change and soil degradation mitigation by sustainable management of soils and other natural resources. *Agric. Res.* 1(3): 199-212.
24. Lal, R., J.A. Delgado, J. Gulliford, D. Nielsen, C.W. Rice and R.S. Van Pelt. 2012. Adapting agriculture to drought and extreme events. *J. Soil and Water Conserv.* 67(6): 162A-166A.
25. Lenka, N.K. and R. Lal. 2012. Soil-related Constraints to the Carbon Dioxide Fertilization Effect. *Crit. Rev. Plant. Sci.* 31(4):342-357
26. Liang, Q., H. Chen, Y. Gong, M. Fan, H. Yang, R. Lal and Y. Kuzyakov. 2012. Effects of 15 years of manure and inorganic fertilizers on soil organic carbon fractions in a wheat-maize system in the North China Plain. *Nutr. Cycl. In Agroecosys.* 92: 21-33.

27. Liu, R. and R. Lal. 2012. Nanoenhanced materials for reclamation of mine lands and other degraded soils: a review. *Journal of Nanotechnology*. Vol. 2012, article ID 461468, 18 pages. (www.hindawi.com/journals/int/aip/460468.pdf).
28. Ortas, I. and R. Lal. 2012. Long-term phosphorus application impacts on aggregate-associated carbon and nitrogen sequestration in a Vertisol in the Mediterranean Turkey. *Soil Sci.* 177(40): 241-250. (doi:10.1097/ss.ob013e318245d11c).
29. Selhorst, A. and R. Lal. 2012. Effects of climate and soil properties on U.S. homelawn soil organic carbon concentration and pool. *Environmental Mangement*. (DOI: 10.1007/s00207-012-9956-9) 50:1177-1192.
30. Srinivasan, V.H.P. Mahewarappa and R. Lal. 2012. Long-term effects of topsoil depth and amendments on particulate and non-particulate carbon fractions in a Miamian soil of central Ohio. *Soil and Tillage Res.* 121:10-17.
31. Srinivasarao, Ch., B. Venkateswarlu, R. Lal, A.K. Singh, K.P.R. Vittal, S. Kundu, S.R. Singh, and S.P. Singh. 2012. Long-term effects of soil fertility management on carbon sequestration in a rice-lentil cropping system of the Indo-Gangetic Plains. *Soil Sci. Soc. Am. J.* 76: 168-178.
32. Srinivasarao, Ch., B. Venkateswarlu, R. Lal, A.K. Singh, K.P.R. Vittal, S. Kundu G.N. Gajanan, and B. Ramachandrapa. 2012. Soil carbon sequestration and agronomic yield of ground nuts-based systems on an Alfisol in southern India. *Eur. J. Agron.* 43:40-48.
33. Srinivasarao, Venkateswarlu, B., Lal, R., Singh, A.K., Vittal, K.P.R, Sharma, S.K., Jain, M.P., Ravindra Chary, G. 2012. Sustaining agronomic productivity and quality of a Vertisolic soil (Vertisol) under soybean-safflower cropping system in semi-arid central India. *Can. J. Soil Sci.* 92: 771-785. DOI: 10.4141/cjss2011-098
34. Srinivasarao, Ch., A.N. Deshpande, B. Venkateswarlu, R. Lal, A.K. Singh, K.P.R. Vittal, P.K. Mishra, J.V.N.S. Prasad, U.K. Mandal and K.L. Sharma. 2012. Grain yield and carbon sequestration potential of post monsoon sorghum cultivation in Vertisols in semi-arid tropics of central India. *Geoderma* 175/176:90-97.
35. Srinivasarao, Ch., B. Venkateswarlu, R. Lal, A.K. Singh, S. Kundu, K.P.R. Vittal, S.R. Singh, B.K. Ramachandrarappa and G.N. Gajanan. 2012. Long-term effects of crop residues and fertility management on carbon sequestration and agronomic productivity of groundnut-finger millet rotation on an Alfisol in southern India. *Int. J. Agric. Sust.* (<http://dx.doi.org/10.1080/14735906.2012.662392>): 10(3):1-15.
36. Stavi, I. R. Lal, S. Jones and R.C. Reeder. 2012. Implications of cover crops on soil quality and geodiversity in a moist-temperate region in the Midwestern U.S. *Land Degrad & Dev* 23:322-330 (DOI: 10.1002/ldr.2148)

d) Chapters in Multi-Authored Books

37. Beniston, J. and R. Lal. 2012. Improving soil quality for urban agriculture in the north central U.S. In R. Lal and B. Augustin (Eds) "Carbon Sequestration in Urban Ecosystems", Springer, Dordrecht, Netherlands: 279-314.

38. Coehlo, S. T., O. Agbenyega, K.H. Erb, H. Haberl, M. Hoogwijk, R. Lal, O. Lucon, O. Masera and J. R. Moreira, 2012: Chapter 20 - Land and Water: Linkages to Bioenergy. In *Global Energy Assessment - Toward a Sustainable Future*, International Institute for Applied Systems Analysis, Vienna, Austria and Cambridge University Press, Cambridge, UK and New York, NY, USA: 1482-1525.
39. Dubey, A., and R. Lal 2012. Changes in precipitation during the twentieth century across a latitude gradient in the United States. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". *Advances in Soil Science*, Taylor and Francis, Boca Raton, FL: 63-83.
40. Ibrahim, M. R. Lal, E.A. Bary, and A. Swelam. 2012. Water resources and agronomic productivity in West Africa and North Africa region. In R. Lal and B.A. Stewart (Eds.) "Soil Water and Agronomic Productivity". *Advances in Soil Sci.* Taylor and Francis, Boca Raton, FL: 163-185.
41. Ibrahim, M., R. Lal, E.A. Bary, and A. Swelam 2012. Water resources and agronomic productivity in West Asia and North Africa Region. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". *Advances in Soil Science*, Taylor and Francis, Boca Raton, FL: 163-185.
42. Jungkunst, H.F., J.P. Krüger, F. Heitkamp, S. Erasmí, S. Glatzel, S. Fiedler, and R. Lal. 2012 Accounting more precisely for peat and other soil carbon resources. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 127-157.
43. Kahlon, M.S., R. Lal, P.S. Lubana. 2012. Sustaining groundwater use in South Asia. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". *Advances in Soil Science*, Taylor and Francis, Boca Raton, FL: 131-162
44. Lal, R. 2012. Research needs for credible data on soil resources and degradation. In R. Lal and B.A. Stewart (Eds.) "World Soil Resources and Food Security". Taylor and Francis, Boca Raton, FL: 539-546.
45. Lal, R. 2012. Towards greening of urban landscape. In R. Lal and B. Augustin (Eds) "Carbon Sequestration in Urban Ecosystems", Springer, Dordrecht, Netherlands: 373-384
46. Lal, R. 2012. Urban ecosystems and climate change. In: R. Lal and Bruce Augustin (Eds.) "Carbon Sequestration in Urban Ecosystems", Springer, Dordrecht, Holland: 3-20.
47. Lal, R. 2012 Climate change mitigation by managing the terrestrial biosphere. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 17-39.
48. Lal, R. 2012. Crop residues for biofuel and increased soil erosion hazards. In D. Pimental (Ed.) "Global economic and environmental Aspects of biofuels." CRC: Taylor & Francis, Boca Raton, FL. 397-413pp.
49. Lal, R. 2012. Crop residues for biofuels and increased soil erosion hazard. In D. Pimentel (ed.). *Global Economic and Environmental Aspects of Biofuels*. CRC Press/Taylor and Francis, Boca Raton, FL: 397-413.
50. Lal, R. 2012. Soil Management in the Himalayan region for sustainable production and climate change mitigation. In M.K. Balla, R.M. Bajracharya and S. Sharma (Eds) "Mountain Resource Management in a Changing Environment" Proc. Intl. Symposium, 29-31 May 2012. Tribhuvan University, Kathmandu, Nepal: 1-19.

51. Lal, R. 2012. Soil water and agronomic production. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". Advances in Soil Science, Taylor and Francis, Boca Raton, FL: 43-61.
52. Lal, R. 2012. Supporting ecosystem services with conservation agriculture. In A. Franzluebbers (ed) "Supporting Ecosystem Services with Conservation Agriculture Systems", Renewable Agric. And Food Systems, Cambridge, U.K.
53. Lal, R. 2012. Toward enhancing storage of soil water and agronomic productivity. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". Advances in Soil Science, Taylor and Francis, Boca Raton, FL: 559-567.
54. Lal, R. 2012. Vulnerability of agroecosystems to environmental changes. In "Climate Vulnerability". Elsevier Holland.
55. Lal, R. and B.A. Stewart. 2012. Sustainable management of soil resources and food security. In R. Lal and B.A. Stewart (Eds.) "World Soil Resources and Food Security". Taylor and Francis, Boca Raton, FL: 1-10.
56. Lal, R. and B.A. Stewart. 2012. Sustainable management of soil resources and food security. In "World Soil Resources and Food Security" Edited by Lal, R. and B.A. Stewart. Boca Raton: Taylor & Francis, 2012.
57. Lal, R., and K. Lorenz. 2012 Carbon sequestration in temperate forests. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 187-201.
58. Lal, R., K. Lorenz, R.F. Hüttl, B.U. Schneider, and J. von Braun. 2012. Terrestrial biosphere as a source and sink of atmospheric carbon dioxide. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 1-15.
59. Lal, R., K. Lorenz, R.F. Hüttl, B.U. Schneider, and J. von Braun. 2012 Research and development priorities towards recarbonization of the biosphere. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 533-543.
60. Lal, Rattan (2012). "Agronomic Interactions with CO₂ Sequestration". In Robert A. Meyers (ed.) Encyclopedia of Sustainability Science and Technology, Springer Verlag, Berlin. Volume 1, pp. 161--167.
61. Lorenz, K., and R. Lal. 2012. Carbon storage in urban forest soils of Columbus, OH, USA. In: Lal, R., Augustin, B.J. (Eds.) Carbon Sequestration in Urban Ecosystems. Springer, Dordrecht, The Netherlands: 139-160.
62. Lorenz, K., and R. Lal. 2012. Terrestrial carbon management in urban ecosystems and water quality. In: Lal, R., Augustin, B.J. (Eds.) Carbon Sequestration in Urban Ecosystems. Springer, Dordrecht, The Netherlands: 73-102.
63. Lorenz, K., and R. Lal. 2012 Cropland soil carbon dynamics. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 303-345.
64. Lorenz, K., P.J. Crutzen, R. Lal, and K. Töpfer. 2012 Atmospheric chemistry and climate in the anthropocene. In R. Lal et al. (Eds) "Recarbonization of the Biosphere". Springer, Dordrecht, Holland: 41-57

65. Nguyen, L., F. Zapata, R. Lal and G. Dercon, 2012. Role of nuclear and isotopic techniques in sustainable land management: achieving food security and mitigating impacts of climate change. In R. Lal and B.A. Stewart (Eds.) "World Soil Resources and Food Security". Adv. Soil Sci., Taylor and Francis, Boca Raton, FL: 345-418.
66. Selhorst A., and R. Lal. 2012. Carbon sequestration in golf course turfgrass systems and recommendation for the enhancement of the climate change mitigation potential. In R. Lal and B. Augustin (Eds) "Carbon Sequestration in Urban Ecosystems", Springer, Dordrecht, Netherlands: 249-264.
67. Stewart, B.A., and R. Lal 2012. Manipulating crop geometries to increase yields in dryland areas. In R. Lal and B.A. Stewart (Eds) "Soil Water And Agronomic Productivity". Advances in Soil Science, Taylor and Francis, Boca Raton, FL: 409-425.
68. Zirkle, G. and R. Lal. 2012. Modeling Carbon Sequestration in the U.S. Residential Landscape. In R. Lal and B. Augustin (Eds) "Carbon Sequestration in Urban Ecosystems", Springer, Dordrecht, Netherlands: 265-278.

e) Invited Keynote Presentations

69. Chen, L., B. Campbell, S. Bilen, T. Nakajima, R. Shreshtra, J. Kendell, M. Wu, Y. Tian, P.A. Jacinthe, R. Lal and W. Dick, 2012. Tillage and rotation impacts on greenhouse gas fluxes from two long-term experiments in Ohio, USA. Third International Conference on Carbon Sequestration and Climate Change Mitigation in Agriculture", 21-27 July 2012, Beijing, China.
70. Lal, R. 2012. Adapting Drylands to the Climate Change. 2012 Drylands, Deserts and Desertification Conference 12-15 November 2012, Sede Boger, Ben Gurion University, Israel.
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72. Lal, R. 2012. Carbon sequestration and climate change. Soil as a World Heritage, 22-23 May 2012. Balti, Moldova.
73. Lal, R. 2012. Global Food Security: Challenges and Opportunities. Plenary Keynote Presentation, EcoSummit 2012, 30 September-5 October 2012, Columbus, OH, USA.
74. Lal, R. 2012. Healing the Climate and Feeding the World. Nationwide Insurance, 4 April 2012, Columbus, OH, USA.
75. Lal, R. 2012. Managing Soils for Feeding the Carbon Civilization. Golden Jubilee Symposium, 27-28 November, 2012, PAU, Ludhiana, India.
76. Lal, R. 2012. Nexus of Soil, Water, Waste. Inaugural Lecture "UNU - Institute for Integrated Management of Material Fluxes and of Resources", 10 December 2012, Dresden, Germany. Opening Ceremonies Proceedings, UNU-Flores. 8-23.
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79. Lal, R. 2012. Soil Carbon and the Science of Soil Security. First Global Soil Week, IASS (Postdam) 19-22 November 2012, Berlin, Germany.
80. Lal, R. 2012. Soil Organic Matter Management for Sustainable Production and Climate Change. Intl. Symposium on Mountain Resource Management in a Changing Environment. Aquatic Ecology Centre. 29-31 May 2012, Kathmandu, Nepal.
81. Lal, R. 2012. Soil Organic Matter: The Elixir of Terrestrial Life. First Global Soil Week, IASS (Postdam) 19-22 November 2012, Berlin, Germany.
82. Lal, R. 2012. Solutions Underfoot. The Winter College 2012, 17-18 Feb. 2012, Naples, FL, USA.
83. Lal, R. 2012. Strategies for Addressing Land Degradation. First Global Soil Week, IASS (Postdam) 19-22 November 2012, Berlin, Germany.
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f) Voluntary Contributions

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86. Bonin, C., R. Lal. 2012. Impacts of biofuel feedstock on soil properties and soil carbon stocks. Eastern Native Grass Symposium, Charlottesville, VA, 1-4 October 2012.
87. Kumar, S., A. Kadono, R. Lal, and W. Dick. 2012. Long-term Tillage and Cropping Systems Influences on Soil Properties and Corn Yield. Presentation at the ASA-CSSA-SSSA. International Annual Meeting at Cincinnati, OH. 20-24 October 2012.
88. Kumar, S., J. Witter, R. Lal, R. Moore, J. Bonta, and Y. Xie. 2012. Simulation of Non-Point Source Pollution Losses from Watersheds Managed under Diverse Land Management. Presentation at the ASA-CSSA-SSSA. International Annual Meeting at Cincinnati, OH. 20-24 October 2012.
89. Kumar, S., Kadono, A, Nakajima, T., and R. Lal. 2012. Green House Gas Fluxes as Influenced by No-tillage and Chisel Tillage Under Drainage and Non-Drainage Systems. Presentation at the ASA-CSSA-SSSA. International Annual Meeting at Cincinnati, OH. 20-24 October, 2012
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95. Obade, V., R. Lal. 2012. Investigating the impact of different land management practices on soil quality. Soil Science Society of America Meeting, Cincinnati OH, 22-25 October 2012.
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g) Miscellaneous

97. Lal, R. 2012. World Soils and the Carbon Cycle in Relation to Climate Change and Food Security. Global Soils Week, Issue Paper, 52pp. http://globalsoilweek.org/wp-content/uploads/2013/05/GSW_IssuePaper_Soils_in_the_Global_Cycle.pdf
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99. Sa, J. de Moraes, Santos, J. B. dos, R. Lal 2012. An on-farm assessment of carbon monitoring and mapping scaling up in no-till fields. FAO/UNPC, Rome, Italy 57 pp.

a) *Books Written*b) *Books Edited*

1. Lal, R., M. Sivakumar, M.A. Faiz, A.N.M. Mustafizur Rahman and K.R. Islam (Eds) 2011. *Climate Change and Food Security in South Asia*. Springer, Holland, 600 pp.

c) *Refereed Journal Articles*

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4. Delgado, J.A., P. Groffman, M.A. Nearing, T. Goddard, D. Reicosky, R. Lal, N. Kitchen, C. Rice and D. Towery. 2011. Conservation practices to mitigate and adapt to climate change. *J. Soil Water Conc.* 66(4): 118A-129A
5. Demessie, A., B.R. Singh, and R. Lal. 2011. Soil carbon and nitrogen stocks under plantations in Gambo District, Southern Ethiopia. *J. Sust. For.* 30: 496-517.
6. Gísladóttir, G., E. Erlendsson and R. Lal. 2011. Soil evidence for historical human-induced land degradation in West Iceland. *Appl. Geochemistry.* 26: S28-S31.
7. Jimenez, J.J., K. Lorenz and R. Lal. 2011. Organic carbon and nitrogen in soil particle-size aggregates under dry tropical forests from Guanacaste Catena. 86: 178-191.
8. Jung, J.Y. and R. Lal. 2011. Impacts of nitrogen fertilization on biomass production of switchgrass (*Panicum Virgetum*) and changes in soil organic carbon in Ohio. *Geoderma* 166: 145-152.
9. Jung, J.Y., R. Lal, and D.A.N. Ussiri. 2011. Changes in CO₂, C-13 abundance, inorganic nitrogen, beta-glucosidase, and oxidative enzyme activities of soil during the decomposition of switchgrass root carbon as affected by inorganic nitrogen additions. *Biol. Fert. Soils.* 47: 801-813. (DOI:10.1007/S0034-011-0583-Z).
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11. Kahlon, M.S. and R. Lal. 2011. Enhancing green water in soils of South Asia. *J. Crop Imp.* 25:101-133.

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13. Lal, R. 2011. Land degradation and pedological processes in a changing climate. *Pedologist* 315-325.
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15. Lal, R. 2011. Sustainable soil management under changing climate and desertification. *Annals of Arid Zone* 50: 279-296.
16. Lal, R., J.A. Delgado, P.M. Groffman, N. Millar, C. Dell and A. Rotz. 2011. Management to mitigate and adapt to climate change. *J. Soil Water Cons.* 66(4): 276-285.
17. Lorenz, K., Lal, R and Jiménez, J.J. 2011. Characterization of soil organic matter and black carbon in dry tropical forests of Costa Rica. *Catena* 158 (3-4): 315-321.
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d) Chapters in Multi-Authored Books

35. Lal, R. 2011. Adapting to Climate Change: Research and Development Priorities. In: Lal, R., M. Sivakumar, M.A. Faiz, A.N.M. Mustafizur Rahman and K.R. Islam (Eds) 2010. *Climate Change and Food Security in South Asia*. Springer, Holland: 587-596.
36. Lal, R. 2011. Agronomic interactions with CO₂ sequestration. In R.A. Meyers (Ed.) "Encyclopedia of Sustainability Science and Technology". Springer, Berlin, Germany.
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e) Invited Keynote Presentations

43. Ibrahim, M. and R. Lal. 2011. Climate change and land use in the WANA region. Intl. Conf. on “Adaptation to Climate Change and Food Security in West Asia and North Africa”, WMO/FAO/ICARDA/OSU/ State of Kuwait, 13-16 November 2011, Kuwait.
44. Lal R. 2011. Intensive agriculture and the soil carbon pool. In “Preparing Agriculture for Climate Change”, Punjab Agric. Univ. Ludhiana, India, 6-8 Feb. 2011.
45. Lal, R. 2011. Adaption and mitigation of climate change by improving world’s agriculture ecosystems. In “Agricultural Contributions to Climate Change Solutions: Mitigation and Adaptation at Global and Regional Scales”. Tri Societies Annual Meeting, San Antonio TX, USA. 10-19 October 2011.
46. Lal, R. 2011. Agricultural mitigation of climate change: potential and challenges. In “Mitigation of Greenhouse Gas Emissions from Managed Systems”. Tri Societies Annual Meeting, San Antonio TX, USA. 10-19 October 2011.
47. Lal, R. 2011. Carbon sequestration and nutrient cycling in urban soils. In “Urban Soils”. Tri Societies Annual Meeting, San Antonio TX, USA. 10-19 October 2011.
48. Lal, R. 2011. Challenges of measuring gaseous emissions form agroecosystems. Tri Societies Annual Meeting, San Antonio TX, USA. 10-19 October 2011.
49. Lal, R. 2011. Climate change adaptation and mitigation through land use. Intl. Conference “For Life, For the Future: Biosphere Reserves and Climate Change”, UNESCO’s Man and the Biosphere (MAB), 27-28 June 2011, Dresden, Germany.
50. Lal, R. 2011. Climate change and sustainable agriculture. “Agronomy and Sustainable Agriculture” seminar series, Iowa State University., Ames, IA, USA. 30 March 2011.
51. Lal, R. 2011. Climate change and the biosphere. 40th Anniversary of the UNESCO’s “Man and the Biosphere” program. Dresden, Germany, 28-29 May 2011.
52. Lal, R. 2011. Global Soil Forum: Potential and Opportunities. Inst. Advanced Sust. Studies (IASS), 25-28 May 2011m Potsdam, Germany.
53. Lal, R. 2011. Harnessing science knowledge for combating desertification, land degradation and drought. COP-10 Meeting, UNCCD, 17-18 October, Changwan, South Korea.
54. Lal, R. 2011. Land degradation and pedologic processes of world soils. Intl. Symposium on “Land Degradation and Pedology”, Japanese Society of Soil Sci., IUSS Comm. 3.5, 8-10 August, Tsukuba, Japan.
55. Lal, R. 2011. Managing soils in the carbon civilization. D. Foster Hewitt Lecture, Lehigh University, Bethlehem, PA, USA. 7-8 April, 2011.

56. Lal, R. 2011. Marginal Soils. In “Development on the Margins”. Tropentag 2011, University of Bonn, 5-7 October 2011, Bonn Germany.
57. Lal, R. 2011. Mitigation strategies of the climate change effects. Dept. of Land, Air and Water Resources, U.C. Davis, CA, USA. 27 April 2011.
58. Lal, R. 2011. Processes of soil carbon sequestration and ecosystem services. Soil Carbon Sequestration Summit. University of Sydney, Australia, 31st Jan.-3rd Feb. 2011
59. Lal, R. 2011. Producing more with less: sustainable management of soils. Symposium “Growing More with Less”, U.S. Grains Council Meeting, 24-25 July 2011, San Francisco, CA.
60. Lal, R. 2011. Residue removal for biofuel and soil quality. University of Guam, 3-4 August 2011. Mangilao, Guam.
61. Lal, R. 2011. Restoring soil health and organic matter for conserving soil moisture in a watershed. Workshop “Blueprint for Sustainable Ecologically-Based Normal University, 31st July -4th August, 2011, Beijing, China.
62. Lal, R. 2011. Science dimension of achieving zero net land degradation. 17th Sesion of COP, 5-6 December 2011, Durban, South Africa.
63. Lal, R. 2011. Soil carbon sequestration and ecosystem services. In “Supporting Ecosystem Services with Conservation Agricultural Approaches, Tri Societies Annual Meeting, San Antonia, TX, USA. 10-19 October 2011.
64. Lal, R. 2011. Soil quality in the WANA region for adapting to climate change and advancing food security. Intl. Conf. on “Adaptation to Climate Change and Food Security in West Asia and North Africa”, WMO/FAO/ICARDA/OSU/ State of Kuwait, 13-16 November 2011, Kuwait.
65. Lal, R. 2011. Soils and global food security. Borlaug Lecture, 11th October 2011, Simpson College, IA, USA.
66. Lal, R. 2011. Soils, food and climate. Recarbonization of the Biosphere. IASS, Potsdam, Germany, 20-22 March 2011.
67. Lal, R. 2011. The climate relevance of dryland ecosystems Workshop “Ecosystem Climate Relevance”, UNEP-World Conservation Monitoring Center, 26-29 October, 2011, Isle of Wilm, Germany.
68. Lal, R. 2011. The Greening of Agriculture. The Borlaug Dialogue, World Food Prize Ceremony, 10-14 October 2011, Des Moines, IA, USA.
69. Lal, R. 2011. What soil security will remediate: state of the global soil stocks, why soil carbon is the right indicator for soil security. Soil Security Meeting, The United State Study Center/ WWF, 15-16 Sept. 2011, Washington, D.C., USA.
70. Lal, R. 2011. World soils and their protection. Wilton Park Conference “Global Land Use: Policies for the Future”, 26- 28 Sept. 2011, Wilton Park, West Sussex, U.K.
71. Lal, R. 2011. Initiatives to include soils on global political agenda to address emerging issues. Bonn 2011 Nexus Conference, 16-18 November, Bonn, Germany.

72. Ortas, T. and R. Lal. 2011. Climate change and food security in the WANA region. Intl. Conf. on “Adaptation to Climate Change and Food Security in West Asia and North Africa”, WMO/FAO/ICARDA/OSU/ State of Kuwait, 13-16 November 2011, Kuwait.

f) Voluntary Contributions

73. Lal, R. 2011. Soil carbon sequestration and ecosystem services. SSSA Annual Meeting, San Antonio, TX. Oct. 16-19.
74. Lal, R. 2011. Agricultural mitigation of climate change- potential and challenges. SSSA Annual Meeting, San Antonio, TX. Oct. 16-19.
75. Lal, R. 2011. Carbon sequestration and nutrient cycling in urban soils. SSSA Annual Meeting, San Antonio, TX. Oct. 16-19.
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g) Miscellaneous

a) Books Written

1. Lorenz, K. and R. Lal 2010. Carbon Sequestration in Forest Ecosystems. Springer Verlaag, Germany, 2010, 277 pp.

b) Books Edited

2. Lal, R. and B.A. Stewart (Eds.). 2010. Food Security and Soil Quality. CRC Press, Boca Raton FL, 412 pp.
3. Lal, R. and B.A. Stewart. (Eds.). 2010. Soil Quality and Biofuel Production. CRC/Taylor and Francis. Boca Raton, Fl, 210 pp.

c) Refereed Journal Articles

4. Bellido, Lopez, R., R. Lal, T.K. Dannerberger and J.R. Street. 2010. Plant growth regulators and nitrogen fertilizer effects on soil organic carbon sequestration in creeping bent grass fairway turf. *Plant and Soil*. 332: 247-255.
5. Galdos, M.V., C.C. Cerri, R. Lal, M. Bernoux, B. Feigl and C.E. Cerri. 2010. Net greenhouse gas fluxes in Brazilian ethanol production systems. *Global Change Biol. and Bioenergy* 2: 37-44.
6. Gísladóttir, G., E. Erlendsson, and R. Lal, and J. Bigham. 2010. Carbon budget over the last millennium in the soils of the Reykjanes peninsula, southwest-Iceland. *Quaternary Research* 73.1: 20(13).
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12. Lal, R. 2010. Carbon sequestration in saline soils. *J. Soil Salinity and Water Quality* 1(1&2): 30-40.

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16. Lal, R. 2010. Managing soils for a warming earth in a food-insecure and energy-staved world. *J. Plant. Nutr. Soil Sci.* 173: 4-15.
17. Lopez-Bellido, R. Lal, L.B. Owens, and L. Lopez-Bellido. 2010. Does North Appalachian agriculture contribute to carbon sequestration? *Agric. Ecosyst.& Env.* 137: 373-376.
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21. Pan, G., X. Xu, P. Smith, W. Pan, and R. Lal. 2010. An increase in topsoil SOC stock of China's croplands between 1985 and 2006 revealed by soil monitoring. *Agriculture, Ecosystems & Environment* 136(1):133–138.
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24. Shrestha R.K., and R. Lal. 2010. Carbon and nitrogen pools in reclaimed lands under forest and pasture ecosystems in Ohio. *Geoderma* 157: 196-205.
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d) Chapters in Multi-Authored Books

26. Feller, C., E. Blanchart, M. Bernoux, R. Lal, R. Manlet and T. Ollivier. 2011. Organic matter knowledge and management in soils of the tropics related to ecosystem services. In R. Lal and B.A. Stewart (Eds.) "Food Security and Soil Quality". Taylor and Francis, Boca Raton, FL: 241-275.
27. Lal, 2010. Myths of cellulosic ethanol. *European Soc. Soil Conserv. Newsletter* 4 pp 3-11. (http://www.essc.sk/newsletter/Newsletter_4_09.pdf)
28. Blanco, H., R. Lal. 2010. Restoration of Eroded and Degraded Soils. Blanco-Canqui, H. and R. Lal (Eds) *Principles of Soil Conservation and Management*. Springer Verlaag, 399-423.

29. Lal, R. 2010. Book Review. E.R. Landa and C. Feller (eds). "Soil and Culture" Springer, Dordrecht, 483 p. *Soil & Tillage Res.* 110: 250-258.
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51. Lal, R. 2010. Climate change and soils carbon management. 65th Soil and Water Conservation Society International Annual Conference, St. Louis, MO, USA, 18-21 July 2010.
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66. Kumar. S. 2010. Apex Model Simulation of Runoff and Sediment Losses From Agroforestry Buffers for Watersheds Under Pasture Management. ASA, CSSA, and SSSA 2010 International Annual Meetings, Long Beach, CA.
67. Kumar. S. 2010. Predicting Spatial Distribution of Organic Carbon Pool In Soils of Ohio Using Four Statistical Approaches. ASA, CSSA, and SSSA 2010 International Annual Meetings, Long Beach, CA.
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69. Selhorst, A. 2010. Carbon sequestration in golf course turfgrass systems. Carbon Dynamics in Urban Ecosystems Conference, Columbus, OH.
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a) *Books Written*b) *Books Edited*

1. Lal, R. and R.F. Follett (Eds) 2009. Soil carbon Sequestration and the Greenhouse Effect. Soil Sci. Soc. Am. Special Publ. 57, Second Edition, Madison WI, 410 pp.
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d) Chapters in Multi-Authored Books

48. Blanco-Canqui, H. and R. Lal 2009. Crop residue management and soil carbon dynamics. In 2nd. Ed. R. Lal and R.F. Follett (Eds.). "Soil Carbon Sequestration and Greenhouse Effect". SSSA Spec. Publ. 57. Madison, WI: 291-310.
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e) Invited Keynote Presentations

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64. Lal, R. 2009. Adapting to climate change through soil management. 4-9 July. CIMMYT, Astana, Kazakhstan.
65. Lal, R. 2009. Carbon sequestration in world soils. 3-6 June. IFPRI/UNFCC, Bonn, Germany.
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68. Lal, R. 2009. Direct seeding to meet the 2050 challenge. 22 January. Northwest Direct Seeding Cropping System Conference, Three Rivers Convention Center, Kennewick, WA, USA.
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70. Lal, R. 2009. Laws of Sustainable Soil Management to Meet the Challenges of 21st Century. 24 April. Lexington University of Kentucky, USA.
71. Lal, R. 2009. Managing soil for advancing food security and adapting to climate change. Japan Science Council, 15-18 September, Tokyo, Japan.
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73. Lal, R. 2009. Managing soils to enhance eco-friendly in agro-ecosystems. 16-17 June. Science Forum 2009, CGIAR Wageningen, Netherlands.
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85. Lal, R. 2009. Soils and land perspectives to enhance global linkages. 16-17 June, ISRIC, Wageningen, Netherlands.
86. Lal, R. 2009. The role and potential of soil carbon sequestration in protecting climate. 26 September 2009, Avalon Conference, Sofia, Bulgaria.
87. Lal, R. 2009. Tillage and residue impact in soil carbon pool. 1-5 November 2009, Invited Paper, Annual Meetings of ASA/CSSA/SSSA, Pittsburg, USA.
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f) Voluntary Contributions

g) Miscellaneous

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90. Shrestha, R.K., R. Lal, D.A.N. Ussiri, W. Dick, P. Jacinthe, R. Brown. 2009. Mineral reclamation. Fact sheet, OCDO, Columbus, OH.

a) Books Written

1. Blanco-Canqui, H. and R. Lal 2008. Principles of Soil Conservation. Springer Verlaag, 617 pp.

*b) Books Edited**c) Refereed Journal Articles*

2. Abid, M, Lal, R. "Tillage and drainage impact on soil quality: II. Tensile strength of aggregates, water retention and infiltration rate." *Soil & Tillage Res.*. Vol. 2, no. 103
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g) Miscellaneous Publications

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f) Voluntary Contributions

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47. Lal, R. 2005. Soil conservation for global food security and mitigating climate change. International Workshop “Strategies, Science, and Laws of the Conservation of World’s Soil Resources”, Reykjavik, Iceland. 14-18 September 2005.
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f) Voluntary Contributions

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28. Termites (20 minutes)
29. Tropical deforestation (30 minutes)

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1. Bridge, B. J., N. Collis-George and R. Lal. 1970. The effect of wall lubricants and column confinement on the infiltration behavior of a swelling soil in the laboratory. *Aust. J. Soil Res.* 8: 259-272. <https://doi.org/10.1071/SR9700259>.
2. Collis-George, N. and R. Lal. 1970. Infiltration into columns of swelling soil as studied by high speed photography. *Aust. J. Soil Res.* 8:195-207. <https://doi.org/10.1071/SR9700195>.
3. Lal, R. and G. S. Taylor. 1970. Drainage and nutrient effects in a field lysimeter study. II. Mineral uptake by corn. *Soil Sci. Soc. Amer. Proc.* 34: 245-248. <https://doi.org/10.2136/sssaj1970.03615995003400020020x>.
4. Lal, R., B. J. Bridge, and N. Collis-George. 1970. The effect of column diameter on the infiltration behavior of a swelling soil. *Aust. J. Soil Res.* 8: 185-193. <https://doi.org/10.1071/SR9700185>.

1969**Publications: 1***Refereed Journal Articles*

1. Lal, R. and G. S. Taylor. 1969. Drainage and nutrient effects in a field lysimeter study. I. Corn yield and soil conditions. *Soil Sci. Soc. Amer. Proc.* 33: 937-941. <https://doi.org/10.2136/sssaj1969.03615995003300060039x>.

1968**Publications: 1***Refereed Journal Articles*

1. Chatterjee, R. K. and R. Lal. 1968. Growth and yield of maize as influenced by soil physical properties. *Ind. J. of Agric. Sci.* 38: pp 816-819.

	Name	Thesis Title	University / Country	Degree	Year
Supervised Graduate Students, Postdoctoral Fellows,					
A. Student Research Supervised at IITA					
1.	O. Babalola	Effects of subsoil gravel horizon on growth, root development and water relations of maize.	University of Ibadan	Ph.D	1974
2.	P.N. Vine	Maize root growth in sand and gravelly sand.	University of Ibadan	M.Sc	1974
3.	P.O. Aina	The effects of rainfall, soil and management factors on soil erosion of Nigerian tropical soils.	The Ohio State University	Ph.D	1977
4.	A.O. Anastase	Characterization of rainfall parameters for defining erosivity of tropical rain stands.	National University of Benin	M.Sc	1977
5.	R.S. Harrison-Murray	Crop responses to mulching in tropical environment with special reference to high soil temperature.	University of Reading	Ph.D	1978
6.	M. Poto	Soil and climate parameters affecting potential erosion hazard in Zaire.	University of Ibadan	M.Phil	1979
7.	P.A.F. Foncho	Response of tropical maize cultivars to temperature and moisture stress.	University of Ibadan	Ph.D	1979
8.	M. Bonsu	Hydrological properties of a toposequence on an Alfisol in Nigeria.	University of Ghana	M.Sc	1979
9.	L.T. Ogunremi	Effects of water table depths and calcium peroxide on the performance of cowpea, soybean and maize.	University of Ibadan	M.Sc	1980
10.	M.N. Armon	Effects of tillage systems on soil and water conservation on soil physical properties.	University of Ibadan	M.Sc	1980
11.	M. Banda	Plant-water relations as a criterion for screening for drought resistance in rice.	University of Zaire	Ph.D	1980
12.	S.O. Ajunwoan	Rainfall erosivity and soil erodibility studies in western Nigeria.	University of Ibadan	Ph.D	1981
13.	E.L. Ngatunga	Soil erosion studies at Mlingano on the eastern	University of Dar es Salaam	M.Sc	1981

RESEARCH THESES OF GRADUATE STUDENTS SUPERVISED
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	Name	Thesis Title	University / Country	Degree	Year
		Usambara, Tanzania.			
14.	A.I. Khatibu	Influence of tillage and mulching on the growth of yield of maize, cowpea and soybean.	University of Dar es Salaam	M.Sc	1981
15.	E.C. Amezquita	A study of the water regime of a soil during approach to field capacity and wilting point.	University of Reading	Ph.D	1981
16.	J.S.C. Mbagwu	Studies on soil loss-productivity relationships of Alfisols, Ultisols in southern Nigeria.	Cornell University	Ph.D	1981
17.	L.T. Ogunremi	Tillage systems for rice production in different ecologies.	University of Ibadan	Ph.D	1983
18.	M.N. Armon	Bio-physical and socio-economic constraints for degradation of tropical soils.	University of Ibadan	Ph.D	1983
19.	H. Franzen	Tillage induced soil compaction.	University of Gottingen	Ph.D	1986
20.	U. Sabel-Khoschella	Soil erosion and cropping systems.	University of Munich	Ph.D	1986
21.	M.E. Ogula	Soil-tillage interaction for upland rice.	University of Zaire	Ph.D	--
22.	B. Kayombo	Crop response to soil compaction.	University of Copenhagen	Ph.D	1986
23.	P. Mtakwa	Comparative evaluation of soil erosion by different methods.	Sokoine Agric. Univ. Morogoro	M.Sc	1986
24.	C. Mayona	Seeding establishment with no-till.	Sokoine Agric. Univ. Morogoro	M.Sc	1986
25.	H. Mahoo	Baseflow and interflow with different land use systems.	Sokoine Agric. Univ. Morogoro	Ph.D	1987
26.	M. Bernard	Impact of farming systems on soil erosion in the tropics.	University of Munich	Ph.D	1988
27.	G. Ley	Hard setting soils of the tropics.	University of Aberdeen	Ph.D	1988
28.	F.K. Salako	Soil erodibility and rainfall erosivity.	University of Nigeria	M.Sc	1986
29.	E.I. Ahaneku	Vegetal cover and soil splash.	University of Ibadan	M.Sc	1985
30.	M. Miller	Crop response to soil erosion.	University of California, Davis	Ph.D	1986
31.	S. Huke	Vegetal cover and soil splash.	University of California, Davis	M.Sc	1984
32.	A. Vanelstande	Erodibility of some Nigerian soils.	University of Louven	Ph.D	1986

RESEARCH THESES OF GRADUATE STUDENTS SUPERVISED

Students: 131

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	Name	Thesis Title	University / Country	Degree	Year	
B. The Ohio State University						
33.	H. Tanaka	Effects of vehicular traffic on soil physical and crop growth.	Japan	M.Sc	1990	
34.	R. Bajracharya	Intra-rill soil erodibility and soil properties.	Nepal	M.Sc	1991	
35.	A. Changere	Soil erosion and crop productivity: assessment and prediction.	Ethiopia	Ph.D	1993	
36.	M.L. Thomas	Land use and management effects on soil properties, runoff, erosion and water quality.	St. Lucia	M.Sc	1991	
37.	J. Herrick	Restoration of tropical pastures by dung pats.	U.S.A.	Ph.D	1993	
38.	M. Hemminger	Water table management effects on soil physical and hydrological properties.	U.S.A.	M.Sc	1993	
39.	M. Romero	Inter-rill erosion related to soil management and soil properties.	Costa Rica	M.Sc	1993	
40.	M. Tenywa	Partial areas leading to preferential runoff and erosion.	Uganda	Ph.D	1993	
41.	E. Salchow	Inter-dependent physical properties in spatially variable alluvial soils of southern Ohio.	U.S.A.	M.Sc	1994	
42.	P. Fahnestock	Soil erosion and crop productivity.	U.S.A.	M.Sc	1994	
43.	R. Bajracharya	Soil crusting and accelerated erosion.	Nepal	Ph.D	1995	
44.	Par Ivar Vaje	Nitrogen and moisture interaction on eroded soils.	Norway	Ph.D	1998	
45.	A.J. Tenge	Soil moisture and temperature interactions on eroded soils in Mlingano.	Tanzania	M.Sc	1995	
46.	A. M. Haering	Cropping systems effects on soil structure in Colombia.		Germany	M.Sc	1996
47.	E. Salchow	Critical limits of soil quality parameters for eroded phases of Miamian soils.	U.S.A.	Ph.D	2001	
48.	M. Flowers	Axle load effect on soil physical properties.	U.S.A.	M.Sc	1997	
49.	M. Sullivan	Soil drainage and DOC transport	U.S.A.	M.Sc	1997	
50.	N. Dagdelen	---	Turkey	M.Sc	1997	

RESEARCH THESES OF GRADUATE STUDENTS SUPERVISED
Students: 131

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	Name	Thesis Title	University / Country	Degree	Year
51.	W. Trujillo	Carbon sequestration by tropical pastures	Columbia	Ph.D	1998
52.	Par Ivan Vaje	Soil Erosion in Tanzania	Norway	Ph.D	1998
53.	T. Houser	Mineland reclamation and soil quality	U.S.A.	M.Sc	1999
54.	K. Rutan-Jorgensen	Farming systems effects on soil properties	U.S.A.	M.Sc	1999
55.	R. Akis	Drainage and nitrate leaching	Turkey	M.Sc	1999
56.	S. Duiker	Soil erosion and productivity in the Andean region	Holland	Ph.D	2000
57.	V. Akala	C sequestration by mineland reclamation	India	Ph.D	2000
58.	A. Lantz	Land use effects on C pool in soils of Ohio	U.S.A.	M.Sc	2000
59.	M. Wairiu	Soil management and soil quality	Solomon Islands	Ph.D	2001
60.	H. Holeplass	Soil carbon dynamics	Norway	M.Sc	2002
61.	L. Mulumba	Soil C dynamics in different ecoregions	Uganda	Ph.D	2004
62.	J. Hao	Tillage methods and soil C dynamics	China	M.Sc	--
63.	K. Mahadevan	Land use and policy issues affecting SOC pool	India	Ph.D	--
64.	S. S. Al-Adawi	Soil compaction	Oman	Ph.D	--
65.	Y.L. Zinn	Soil carbon sequestration	Brazil	Ph.D	2004
66.	K. Awasthi	Watershed management in Nepal	Nepal	Ph.D	2004
67.	H. Emery	Organic farming and soil quality	U.S.A.	M.Sc	2005
68.	S. Jagadamma	Soil carbon dynamics	India	M.Sc	2005
69.	J. Tanzosh	Water quality and land use	U.S.A.	M.Sc	2005
70.	J. Elder	Soil carbon dynamics in peat soils	U.S.A.	M.Sc	2005
71.	S. Jagadamma	Mechanisms of soil carbon sequestration	India	Ph.D	2008
72.	A. Selhorst	Urban soil carbon dynamics	U.S.A.	M.Sc	2007
73.	F. Kazi	Gaseous emissions	U.S.A.	M.Sc	--
74.	B. Shrestha		U. of Iceland	Ph. D	2007
75.	J. Godwin	C Dynamics	U.S.A.	M.Sc	2008
76.	Ji Young Jung	Switchgrass	S. Korea	Ph.D	2010
77.	U.K. Mishra	Soil Carbon	Nepal	Ph.D	2010
78.	Melissa Herman	Intl. Soil Sci.	U.S.A.	M.Sc Honors	2008
79.	Gina Zirkle	Urban soil	U.S.A.	M.Sc	2010
80.	Anjali Dubey	Carbon footprint	India	M.Sc	2009
81.	Josh Beniston	Soil Quality	U.S.A.	M.Sc	2010
82.	Paula Chacon	Soil Carbon	Costa Rica	M.Sc	2010
83.	Josh Beniston	Sustainable Agric.	U.S.A.	Ph.D	2013

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	Name	Thesis Title	University / Country	Degree	Year
84.	Ryan Hottle	Biochar	U.S.A.	Ph.D	2013
85.	Chris Eastman	Biochar	U.S.A.	M.Sc	2012
86.	Nick Stanich	Climate Change	U.S.A.	M.Sc	2013
87.	Gina Zirkle	Urban Soils	U.S.A.	Ph.D	2011
88.	Adam Selhorst	Urban Soils	U.S.A.	Ph.D	2011
89.	A.D. Wele	Carbon Sequestration	Norwegian U. of Life Sci.	Ph.D	2011
90.	Merrie Anne Vaurghese	Carbon Footprint of Agriculture	India	M.Sc	2012
91.	Samantha Sekar	Soil Quality	U.S.A.	M.Sc	2012
92.	Demessie Ambachew	Soil Carbon	Norwegian U. of Life Sci.	Ph.D	2012
93.	Taru Lehtinen	Soil Management	U. of Iceland	Ph.D	2014
94.	Olga Vilmundardóttir	Soil Weathering	U. of Iceland	Ph.D	2015
95.	Aweke Gelaw	Soil Carbon	Norwegian U. of Life Sci.	Ph.D	2015
96.	Patrick Bell	Soil Carbon	U.S.A.	Ph.D	2015
97.	Chris Eidson	Soil Quality	U.S.A.	M.Sc	2015
98.	Claire Sutton	Soil Quality	U.S.A.	M.Sc	2015
99.	Nall Moonilall	Biochar	U.S.A.	M.Sc	2015
100.	Yiming Zhao	Climate Change	China	M.Sc	2015
101.	Reed Johnson	Soil Quality	U.S.A.	M.Sc	2015
102.	Ellen Maas	Predicting Soil Carbon	U.S.A.	M.Sc	2016
103.	Henry Anton Peller	Tropical soil management in Belize	U.S.A.	M.Sc	2017
104.	Eric Stein	Land use and soil properties in Tanzania	U.S.A.	MENR	2017
105.	Steven Doyle	On-farm risk assessment	U.S.A.	M.Sc	2018
106.	Chloe Turner	Soil formation on glacial moraine	U.S.A.	M.Sc	2018
107.	Ellen Maas	Modeling soil carbon	U.S.A.	Ph.D	2020
108.	Francis Clarke	Biofuel feed stocks	U.S.A.	M.Sc	2020
109.	Adolfo Calero	Fertilizer-Derived Uranium in Ohio	U.S.A.	M.Sc.	2020
110.	Patricia Cordero-Irizarry	Agroforestry in Puerto Rico	Puerto Rico	Ph.D	2021
111.	Henry Anton Peller	On-farm research in Honduras	U.S.A	Ph.D	2021
112.	Hengkang Zhao	Soil quality	China	M. Sc.	2021
113.	Nall Moonilall	Restoration of eroded soils	U.S.A.	Ph.D.	2022
114.	Anna Kolganova	Methanogenesis in rumen	Russia	M.Sc	2023
115.	Brittany Multer	Weathering of soil applied concrete	U.S.A	M.Sc	2023
116.	Ming Wang	Soil Remediation	China	M.Sc	2023

RESEARCH THESES OF GRADUATE STUDENTS SUPERVISED

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	Name	Thesis Title	University / Country	Degree	Year
117.	Hengkang Zhao	Drainage x tillage interaction	China	Ph.D	2024
118.	Peter Renz	Soil Health Indicators of Soybean	U.S.A.	Ph.D.	2024
119.	Omar Abdelmatloub	Representative Soil Samples of a Common Soil Series	Libya	Ph.D.	2024
120.	Daniel Ruane	Wetland Carbon Sequestration	U.S.A.	M.Sc.	2024
121.	Alec Ogg	Cover cropping for vegetables	USA	M.Sc	Change Advisor
122.	Lillian Labas	Soil health effects on water quality	USA	M.Sc	Change Advisor
123.	Derek Holston	On-farm soil carbon assessment	USA	M.Sc	2025
124.	Anna Kolganova	Biochar and methanogenesis in rumen	Russia	Ph.D	2026
125.	Brittany Multer	Concrete weathering and SIC sequestration	USA	Ph.D	2026
126.	Chinmayee Priyadarshini	Mulch Cover	India	Ph.D	2026
127.	Sonam Rustagi	Soil Policy	USA	M.Sc	2025
128.	Md. Nayem Hasan Munna	*****	Bangladesh	Ph.D	2026
129.	Jason Phillips	Soil Policy	USA	M.Sc	Dropped
130.	Dan Borrenpohl – on advisory committee		USA	M.Sc.	2025
131.	Divya Ghanghas – on advisory committee (Texas A&M)		USA	M.Sc.	2025
132.	Shefali Sinha	Soil Health-Human Health	USA	M. Sc.	Dropped
133.	Jian Ding– on advisory committee (Yale)		China	Ph. D.	2027

Name	Country	Year	Research Topic	
Postdoctoral Fellows/Research Associates Supervised				
1.	R. Maurya	India	1975-1978	Root Growth And Soil Management
2.	D. De Vleeschauwer	Belgium	1976-1978	Soil Erosion And Erodibility
3.	M. Rodriguez	Columbia	1979-1980	Water Management For Rice
4.	P. Rouseau	Belgium	1980-1982	Soil Erodibility
5.	H. Madaukor	Nigeria	1982-1984	Root Growth In Compacted Soils
6.	B.S. Ghuman	India	1981-1983	Soil Temperature Regime
7.	O. Opara-Nadi	Nigeria	1983-1986	Water Uptake By Plants
8.	B.S. Ghuman	India	1985-1988	Deforestation Of Tropical Rainforest
9.	M. Ebeid	Egypt	1990-1991	Long-Term Soil Management Experiments
10.	M. Reeves	USA	1991-1993	N-Use Efficiency And Multi-Cropping
11.	J. McLaughlin	USA	1991-1992	Gaseous Emission From Soils
12.	R. Bajracharya	Nepal	1995 -1997	Soil Erosion And Carbon Dynamics
13.	G.C. Starr	U.S.A.	1998 -1999	Soil Erosion And Carbon Pools And Dynamics
14.	J. Hopkins	U.S.A.	1999 - 2001	Impacts Of Land Degradation
15.	P. Jacinthe	Haiti	1999 - 2000	Soil Erosion And C Dynamics
16.	Y-L. Hao	China	1999-2001	Land Use And C Dynamics
17.	C. den Biggelaar	Holland	1999-2000	Soil Degradation And Productivity
18.	W. Trujillo	Colombia	2000-2001	Soil Carbon Sequestration
19.	V. Akala	India	2000-2001	Mineland Restoration For Soil C Sequestration
20.	M. Ahmadi	Iran	1995-2000	Soil Compaction
21.	M. Huffman	USA	2001 - 2003	Cropping Systems/Cover Crops
22.	M. Shukla	India	2001 - 2002	Soil Quality
23.	Z. Tan	China	2001 - 2005	Soil C Pool And Baseline
24.	P. Puget	France	2001 - 2002	Soil C Dynamics
25.	A. Eynard	Italy	2002 - 2003	Soil Degradation And Productivity
26.	M. Jarecki	Poland	2002 - 2004	Soil Carbon Dynamics
27.	C. Bronick	USA	2002 - 2004	Soil Structure
28.	V. Polyakov	Ukraine	2002 - 2004	Soil Erosion And Carbon
29.	H. Blanco	Bolivia	2004 - 2007	Soil Structure And Carbon
30.	R. Lemus	Panama	2004 - 2006	Energy Crops
31.	K. Lorenz	Germany	2004 - 2011	Soil Carbon Dynamics

POSTDOCTORAL FELLOWS/RESEARCH ASSOCIATES SUPERVISED

Researchers: 67

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	Name	Country	Year	Research Topic
32.	D. Jenerette	USA	2004 - 2005	Interphase Between Terrestrial And Aquatic Ecosystems
33.	J. Jimenez	Spain	2005- 2007	Carbon Sequestration In Costa Rica
34.	F. Sartori	Italy	2005- 2007	Carbon Sequestration And Soil Erosion
35.	S. Christopher	USA	2005 - 2006	Carbon Sequestration
36.	K. Kim	S. Korea	2006	Carbon Sequestration
37.	R. Shrestha	Nepal	2004-2011	Minesoil
38.	D. Ussiri	Tanzania	2004-2011	Minesoil
39.	A. Chatherjee	India	2007-2008	Soil Carbon Assessment
40.	I. Stavi	Israel	2008-2009	Erosion & Carbon Dynamics
41.	R. Mukundan	India	2009	Soil Carbon
42.	S. Kumar	USA/India	2010-2012	Soil Carbon
43.	K. Atsunobo	Japan	2010-2011	Soil Carbon
44.	C. Bonin	USA	2011-2012	Biofuel
45.	M. Ibrahim	Egypt	2011-2012	Soil Carbon
46.	R. Liu	China	2011-2012	Soil Carbon
47.	P. Sternberg	Germany	2011-2012	Minesoil
48.	T. Nakajima	Japan	2011-2012	Minesoil
49.	G. Allen	USA	2011-2013	Minesoil
50.	A. Mukherjee	USA/India	2012-2015	Minesoil
51.	V. Obade	Kenya	2012-2015	GIS
52.	J. Guzman	USA	2013-2017	Soil Quality
53.	U. Somireddy	India	2012-2014	Biofuel
54.	S. Jiang	China	2013-2014	Soil Water Modeling
55.	K. Lorenz	Germany	2019-2027	Soil Carbon Sequestration
56.	K. Bridges	USA	2020-2021	Soil Carbon Sequestration
57.	S. Das	USA	2021-2022	On Farm Assessment of Soil Properties
58.	U. Acharya	USA/Nepal	2021-2022	In Field Measurement of Soil Carbon
59.	J. Ding	USA	2022-2023	Stubble use and management
60.	Naba Amgain	Nepal	2022-2023	On-farm assessment of soil properties
61.	Lauren Baldarelli	USA	2023-2024	On-farm research in Stark County
62.	Gunadhish Khanal	Nepal	2023-2025	On-farm research in Stark County
63.	Yadunath Bajgai	Bhutan	2023-2026	Carbon Farming
64.	Carla Gavilan	Peru	2023-2024	Carbon Farming

POSTDOCTORAL FELLOWS/RESEARCH ASSOCIATES SUPERVISED**Researchers: 67**

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	Name	Country	Year	Research Topic
65.	Sandhya Karki	Nepal	2023-2025	
66.	Nancy Loria	India	2023-	
67.	João Carlos Sá	Brazil	2023-2025	

	Name	Country	Year	Research Topic
Visiting Scientists				
1.	Y. Zainol	Malaysia	1989-1990	Soil Wetness and Anaerobiosis
2.	S. Ram	India	1989-1990	Agroforestry
3.	A.A. Mahboubi	Iran	1990-1991	Soil Water Management
4.	J. Aune	Norway	1993	Soil Productivity
5.	V. Snyder	Puerto Rico	1992-1993	Salt Movement
6.	M.A. Choudhary	New Zealand	1994-1995	Conservation Tillage
7.	J. H. P. Rivera	Colombia	1995-1996	Soil Erodibility
8.	Kai Sonder	Germany	1996	Raindrop Size Measurement
9.	N. Oti	Nigeria	1996-97	Soil Erosion and Productivity
10.	L. Müller	Germany	1997	Soil Drainage
11.	E. Schindler	Germany	1997	Soil Drainage
12.	P.M. Rao	India	1998	Soil Characterization
13.	P. Subbian	India	1998	Sustainable Agriculture
14.	P.K. Chhonkar	India	1998	Mineland Reclamation
15.	C. Cerri	Brazil	1998-99	Soil Degradation
16.	R.K. Rattan	India	1999	Nutrient Dynamics and Soil Quality
17.	J.M. Sa	Brazil	1999	Conservation Tillage and Soil C Dynamics
18.	G.S. Saroa	India	2000	Residue Management
19.	E. Schindler	Germany	2000	Soil physical properties
20.	B.R. Singh	Norway	2001	Soil Carbon Sequestration
21.	H. Holepass	Norway	2002	Soil Carbon Sequestration
22.	R. Undan	Philippines	2003	Sustainable Agriculture
23.	T. Gunnar-Vagen	Norway	2004	Soil Quality
24.	B. Shrestha	Norway/Nepal	2005	Soil Carbon Sequestration
25.	K. Habtegebrial	Norway/Ethiopia	2005	Soil Quality
26.	A. Ul-Hassan Khan	Pakistan	2005-2006	Soil Carbon Sequestration
27.	A. D. Wele	Norway/Ethiopia	2005-2006	Soil Carbon Sequestration
28.	Girmay Gebersamuel Abraha	Norway/Ethiopia	2005	
29.	M. Abid	Pakistan	2006 - 2007	Soil C Dynamics
30.	G. Gísladóttir	Iceland	2007, 2008, 2009	Paleosols, Carbon Dynamics in Glaciated Soils
31.	R. Latif	Pakistan	2007-2008	Soil Quality
32.	R. Lopez-Bellido	Spain	2007-2008	Soil C Dynamics

	Name	Country	Year	Research Topic
33.	A. Bau	Iceland	2008	Soil C Assessment
34.	M. Almagro Bonmati	Spain	2007	Soil C Dynamics
35.	Jao Carlos Sa	Brazil	2008	Soil C Dynamics
36.	B.S. Brar	India	2008	Soil Management
37.	M. Velayutham	India	2008	Soil Quality
38.	Won Kyo Jung	Korea	2008	Carbon Foot Print
39.	M. Elaya Rajan	India	2009	Soil Carbon Sequestration
40.	K. Ono	Japan	2009	Carbon Flux in Soils
41.	H. Yehia	Egypt	2009	Land Degradation
42.	M. Liu	China	2009	Soil Carbon Dynamics
43.	M. Rahman	Bangladesh	2009	Soil and Climate Change
44.	A. Datta	India	2009	Gaseous Emissions from Soils
45.	C. Davis	U.K.	2009	Soil Carbon
46.	Ahmel Duyar	Turkey	2009	Soil Degradation
47.	Ann Bau	Iceland	2009	Soil Carbon
48.	K.K. Bandyopadhyay	India	2010	Soil Carbon
49.	Bal Ram Singh	Norway	2010	Soil Quality
50.	V. Srinivasan	India	2010	Soil Carbon
51.	O.P. Aishwath	India	2010	Soil Carbon & Climate Change
52.	G. Gísladóttir	Iceland	2010	Soil Carbon Dynamics
53.	C. Singla	India	2010	Soil Water Management
54.	S. Veerasamy	India	2010	Methane Emissions in Ruminant
55.	M. S. Kahlon	India	2010-2011	Soils and Climate Change
56.	M. K. Khosa	India	2010	Soil Carbon Assessment
57.	I. Ortas	Turkey	2010-2011	Soil Quality
58.	V. Srinivasan	India	2010	Soil Carbon Dynamics
59.	G. Aweke	Ethiopia	2010	Soil Quality
60.	A. Lenz	Germany	2010	Soil Carbon
61.	H.P. Maheswarappa	India	2010	Soil Quality
62.	O. Vilmundardóttir	Iceland	2010-2011	Soil Carbon
63.	A. Demessie	Norway	2011	Soil Carbon
64.	A. Gelaw	Norway	2011	Soil Carbon
65.	L. Long	China	2011	Soil Carbon

	Name	Country	Year	Research Topic
66.	X. Kong	China	2011	Soil Carbon
67.	M. Schmitz	Germany	2011	Soil Carbon
68.	M. Fan	China	2011	Soil Carbon
69.	H. Chen	China	2011	Soil Carbon
70.	S. Adhikari	India	2011	Soil Carbon
71.	J. Dungiat	England	2011	Soil Carbon
72.	F. Heitkamp	Germany	2011-2012	Soil Carbon
73.	G. Singh	India	2011-2012	Soil Carbon
74.	N. Lenka	India	2011 -2012	Soil Water
75.	F. Tivet	France	2011-2012	Soil Carbon
76.	Y. Liang	China	2011-2013	Soil Carbon
77.	J. Sa	Brazil	2012	Soil Carbon
78.	J. Dungiat	England	2012	Soil Carbon
79.	D.A. Mengistu	Ethiopia	2012	Soil Quality
80.	G. de Freitas Seben Junior	Brazil	2012	Soil Carbon
81.	E.L. de Sousa Neto	Brazil	2012	Soil Quality
82.	A.B. Andrade	Brazil	2012	Soil Quality and Carbon
83.	G. Gísladóttir	Iceland	2012	Soil Carbon Dynamics
84.	K. Takahashi	Japan	2012	Pedology
85.	D. Hopkins	U.K.	2012	Soil Carbon
86.	E. Cerri	Brazil	2012	Climate Change & Soil Carbon
87.	S.M.F. Maia	Brazil	2012	Climate Change & Soil Carbon
88.	A. Kumar	India	2012	Soil Quality
89.	Jose Eduardo Cora	Brazil	2012	Soil Carbon
90.	H. Zhang	China	2012-2013	Soil Carbon
91.	X. Kong	China	2012	Soil Quality
92.	G.B. Aydin	Turkey	2012	Soil Carbon
93.	M. Alessandra	Brazil	2012-2013	Soil Carbon
94.	G. Anghinoni	Brazil	2013	Soil Mgmt., Conserv. Agric., Carbon Sequest.
95.	S.Verma	India	2013-2014	C Sequest., GHGs, Soil Health
96.	A. Hassan	Pakistan	2013-2014	Soil Carbon Dynamics & Land Use
97.	M.S. Venkatesh	India	2013	C Sequestration, Climate Change
98.	D. Mandal	India	2013	Soil Erosion-Induced Loss of Organic Carbon

	Name	Country	Year	Research Topic
99.	A. Das	India	2013	Conservation Agriculture, Climate Change
100.	S.K. Nag	India	2013	Carbon Sequestration in Wetlands
101.	G.S. Dheri	India	2013-2014	Carbon Trading/Carbon Seq./Climate Change (Wetlands)
102.	F. Meng	China	2013	Carbon Mgmt and Seq. in Agricultural Sector
103.	R. Bordonal	Brazil	2013-2014	GHG Mitigation
104.	P. Jha	India	2013-2014	Soil carbon stabilization
105.	S.V. Baweja	India	2014	Geoinformatics for Natural Resource Mgmt.
106.	C. Briedis	Brazil	2014-2015	Carbon Mitigation & Saturation
107.	H. Biswas	India	2014	Ecosystem carbon sequestration
108.	R. Kaushal	India	2014	Ecosystem carbon sequestration
109.	H. Jin	China	2014	Conservation agriculture
110.	T. Ning	China	2014-2015	Soil carbon sequestration and crop carbon fixation
111.	A. Velmurugan	India	2014	Carbon sequestration in degraded lands
112.	A. Gennadyiev	Russia	2014	Soil erosion and soil carbon accumulation
113.	X. Kong	China	2014	Carbon sequestration in HHH Plains
114.	Meiling Zhang	China	2014-2015	Ecological model and carbon cycle
115.	A.P. Filho	Brazil	2014-2015	Sustainable agriculture, adoption of no-till
116.	S. Yadav Singh	India	2014-2015	C management & sequestration
117.	A. Jyoti Nath	India	2014-2015	C sequestration in cropland soils
118.	H. Zhang	China	2014-2015	Absorption of CO ₂ with porous materials
119.	E. Jose de Padua	Brazil	2015	C retention of SOC, effects of altitude
120.	Nawaz Ahmad	Pakistan	2015	Soil Quality and tillage methods
121.	Maria Munoz Garcia	Spain	2015	Carbon sequestration and biochar
122.	Daniela Schatzel	Germany	2015	Surface residue manipulation
123.	Audrey Konda	Brazil	2015	Carbon sequestration in agriculture
124.	Sajid Hussain	Pakistan	2015	Mitigation of drought stress in maize hybrid
125.	Xin Zhao	China	2015	SOC sequestration and conservation agriculture
126.	Kaile Mai	China	2015-2016	Forestry
127.	Jose Alvarez Puente	Spain	2015-	Biochar
128.	Simi Mehta	India	2015-2016	US-India agricultural cooperation
129.	Muhammad Azhar	Pakistan	2016	Greenhouse gase emissions
130.	Huifang Han	China	2016	Soil carbon sequestration
131.	Jayanta Layek	India	2016-2017	Biochar: Impacts on soil physical quality and carbon dynamics

	Name	Country	Year	Research Topic
132.	Ram Swaroop Meena	India	2016-2017	Soil Carbon Sequestration and Climate Change Mitigation
133.	Qingbio Wu	China	2016-2017	Estimating SOM storage & thermal stability by the loss of ignition
134.	Gulab Singh Yadav	India	2016-2017	Role of soil C-dynamics in mitigating greenhouse gas emission
135.	Qingqing Cao	China	2016-2017	Carbon Sequestration
136.	Safdar Hussain	Pakistan	2017	Crop residue mulches & N on C sequestration and GHG emissions
137.	Shuangyi Li	China	2017	SOC, plastic film mulching, & fertilization w/13C labeling method
138.	Cristina Chinchilla Soto	Costa Rica	2017	Soil carbon dynamics in tropical grasslands
139.	Tarik Mitran	India	2017	SOC sequest. potential through Geospatial tech and Modelling
140.	Atif Javed	Pakistan	2017	Soil water, carbon and nitrogen dynamics
141.	Somangouda Patil	Morocco	2017	Agriculture and the Environment in India
142.	Boris Boincean	Moldova	2017-2018	Sustainable and Climate-Resilient Management of Chernozems
143.	Milson Serafim	Brazil	2017-2018	Soil management under no-tillage in areas of high soybean yield
144.	Muhammad Shaukat	Pakistan	2017-2018	Biochar addition & N fertilization on soil temp. and GHGs efflux
145.	Federico Terra	Brazil	2017	Models of soil loss prediction based on USLE: A Review
146.	Manman Fan	China	2017-2018	Soil carbon sequest. in an intensive agricultural region of E. China
147.	Yao Jingtao	China	2017-2018	Land use change and soil carbon effects
148.	Zhenwei Song	China	2017-2018	Soil carbon dynamics in agroecosystem
149.	Kristine Pascal	Philippines	2017	Climate-Smart Ag.: Research wetting-dry production system
150.	Changqi Zhang	China	2018-2019	N & carbon management & environmental issues during ag. prod.
151.	Junjie Li	China	2018-2019	The technology for restoration of soil fertility of degraded soil
152.	Nadia Sabir	Pakistan	2018-2019	Improving carbon storage of an Inceptisols by soil & crop mgmt..
153.	Biswajit Das	India	2019	Mulching effects on SOC dynamics & mitig. of GHG emissions
154.	Xiaodan Gao	China	2019	Soil Organic-Mineral Complex and the Stability of Organic Matter
155.	Yingde Xu	China	2019-2020	Soil Organic Carbon Turnover and Sequestration Mechanism
156.	Fengkui Qian	China	2019	Restoration and management of farmland soil quality
157.	Nour el Houda Abed	Algeria	2019	The beneficial legumes/rhizobia symbiosis in intercropping
158.	Karabi Pathak	India	2019-2020	Long-term No-till Technique: Climate Resilient Agriculture
159.	Hao Su	China	2019-2020	Cropland System Health and Protection
160.	Mah-Noor Azad	Pakistan	2020	Estimation of Soil Erosion and Field Water Balance Equation
161.	Manjeet Kaur	India	2020	Management of Soil Carbon and Greenhouse Gas Emissions
162.	Vladimir Ivezic	Czech Republic	2020	Carbon Sequestration in Agroforestry Systems
163.	Gurmeet Singh Dheri	India	2020	Soil Carbon Management and Greenhouse Gas Emissions
164.	Waseem Hassan	Pakistan	2021	Dynamics of SOC in Agroecological Regions of Punjab, Pakistan

VISITING SCIENTISTS**Scientists: 174**

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	Name	Country	Year	Research Topic
165.	Muhammad Nawaz	Pakistan	2022	Weed Competition and Management in Aerobic Rice
166.	Hafiz Waleed	Pakistan	2022	Carbon tradeoffs, Energy budgeting and GHG Emissions
167.	Muhammad Adnan	Pakistan	2023	Sustainable P Management in Calcareous Soils
168.	Toru Nakajima	Japan	2023-2024	Soil carbon sequestration through regenerative agriculture
169.	Vairton Radmann	Brazil	2024	Soil health and Açai cultivation
170.	Noor-Us-Sabah	Pakistan	2024-2025	Response of Wheat Genotypes to Different P Sources
171.	Muhammad Tasheen	Pakistan	Visa Pending	Tillage & Nutrient Management for SOC Seq. & Soil Health
172.	Ahmed Elgharably	Egypt	2024-2025	N ₂ O emissions and soil management
173.	Joao Carlos Sa	Brazil	2023-2025	
174.	Muhammad Ansar Farooq	Pakistan	2025-2026	
175.	Dr. Ram Swaroop Bana	India (IARI)	2026	
176.	Dr. Gobinder	India (PAU)	2026	

SHORT-TERM VISITING SCHOLARS (2-4 WEEKS)**Scholars: 18**

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Name	Affiliation	Period	Research Topic	
Short-term Visiting Scholars (2-4 weeks)				
1.	A.K. Yadav	CCSHAU, Hisar, India	4-10 September 2003	Carbon Sequestration
2.	G. Jayashree	CCPI, Angrau, Hyderabad	29 September – 12 October 2003	Advanced Tillage Practices
3.	T.D. Pandey	CCPI, IGKV, Jagadapur	29 September – 12 October 2003	Advanced Tillage Practices
4.	N.G. Barua	CCPI, AAU, Jorhat	29 September – 12 October 2003	Advanced Tillage Practices
5.	S. Sarkar	CCPI, BCKV, Gayeshpur	29 September – 12 October 2003	Advanced Tillage Practices
6.	U.K. Mandal	CRIDA	6-19 October 2003	Sustainable Land Resource Management
7.	T.K. Sen	NBSSLUP, Nagpur India	20 November – 4 December 2003	Soil Quality Assessment
8.	K.R. Sharma	S.K. Univ. of Agric, Jammu	23 February – 15 March 2004	Water Harvesting
9.	R.P. Yadav	Central Soil Water Cons. Ct.	23 February – 15 March 2004	Water Harvesting
10.	V.K. Sharma	Himachal Agric. Univ. Palampur	8 June – 6 July 2004	Soil Management
11.	P.C. Bora	Assam Agric. Univ., Jorhat	11-26 October 2004	Soil Quality
12.	S. Sudhishri	Assam Agric. Univ., Jorhat	11-26 October 2004	Soil Quality
13.	V. Nayyar	PAU, Ludhiana, India	11-26 October 2004	Soil Management
14.	R.P. Rajput	JNKVV, Jabalpur, India	11-26 October 2004	Soil Management
15.	D.K. Pahalwan	JNKVV, Jabalpur, India	11-26 October 2004	Soil Management
16.	A. Chandrasekaran	MSSRF, Pudukottai	11-26 October 2004	Soil Management
17.	D. Singh	PAU, Ludhiana, India	11-26 October 2004	Soil Quality
18.	D. Varma	MSSRF, Chennai	11-26 October 2004	Soil Quality

Name	Start Month/Year
Research Scientists/Sr. Research Scholars	
1. Humberto Blanco-Canqui	2007
2. Manoj Shukla	2004
3. Raj Shrestha	2007
4. Klaus Lorenz	2007
5. David Ussiri	2007
6. Sandeep Kumar	2013
7. David Ussiri	3/2014
8. Sami Khanal	8/2014
9. Raj Shrestha	9/2014
10. Martha E. Jiménez-Castañeda	1/2022
11. Carla Gavilan	2023-2024
12. Yadunath Bajgai	2023-2027
13. Nancy Loria	2023-2027
14. Sandhya Karki	2023-2025
15. João Carlos Sá	2023-2025
16. Yaslin Gonzalez	2025-

	Name	Start Month/Year
Undergraduates and Interns		
1.	Samantha Sekar	2012
2.	Henry Peller	2014-2015
3.	Ryan Griffith	2014-2015
4.	Anna Newell	2015
5.	Crystina Bakus	2015
6.	Blake Weber	2015
7.	Vanessa Colon	2015
8.	Janelle Watts	2016
9.	Lauren Hughes	2017
10.	Gabi Collier	2018
11.	Alison Swanka	2018-2020
12.	Sonam Rustagi	2020
13.	Sia Chitnis (High School)	2020
14.	Sergio Zarate Montes	2021
15.	Joseph Helterbrand	2021
16.	Connor Johnson	2022-2023
17.	Gillian McNamara	2022-2023
18.	Sena Mekonnen	2025
19.	Morgan Maughan	2025-2026