

Dr. Rattan Lal

Distinguished University Professor of Soil Science
 Director, CFAES Rattan Lal Center for Carbon Management and Sequestration

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Biographical Information

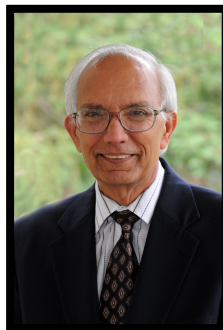
Place of Birth: Karyal, Gujranwala, West Punjab, India

Education: 1959 Matriculation, Government High School, Rajaund, District Kaithal, Haryana, India

1963 B.Sc. (Agriculture) Punjab Agricultural University, Ludhiana, Punjab, India

1965 M.Sc. (Soils), Indian Agricultural Research Institute, New Delhi, India

1968 Ph.D. (Soils), The Ohio State University, Columbus, Ohio, USA



Publications: ~2762 (as of 12/2021)

- Refereed journal articles: 1036
 - 1st author: 314, 2nd author: 406, 3rd author: 152, other: 161
- Books written/edited: 102
- Book chapters: 567
- Keynote Presentations: 746

Mentoring: ~380 international professionals

- Graduate students: 115
- Postdoctoral researchers: 58
- Visiting scholars: 182

Professional Positions Held

- 2020 – Director, CFAES Rattan Lal Center for Carbon Management & Sequestration, OSU, Columbus, OH
- 2020 – 2021 Member, Science Committee and Action Track 1&3, United Nations Food Systems Summit (UNFSS), NY, NY, USA
- 2020 – Member, Advisory Board, International Fertilizer Development Center (IFDC), Muscle Shoals, AL, USA
- 2020 – Member, Advisory Board, German Academic Exchange Service (DAAD), Bonn, Germany
- 2020 – Chair in Soil Science and Goodwill Ambassador for Sustainable Development Issues, IICA, San José, Costa Rica
- 2020 – Steering Committee, Project Drawdown, Global Council for Science and Environment, San Francisco, CA, USA
- 2020 – Adjunct Professor, Indian Agricultural Research Institute (IARI), New Delhi, India
- 2019 – 2020 International Science Council (ISC), Liaison Officer for IUSS, Paris, France
- 2018 – Member, Science Policy Interface, UNCCD, Bonn, Germany
- 2017 – Member, Founding Board, “Adaptation of African Agriculture” (AAA) Initiative, Rabat, Morocco
- 2016 – Member, Executive Committee of “4 per Thousand” Initiative, Paris, France
- 2014 – 2019 Chair, Advisory Committee, UNU-FLORES, Dresden, Germany
- 2013 – 2017 Member, Steering Committee, Global Soil Week (IASS), Potsdam, Germany
- 2013 – 2016 Member, Advisory Board, Food Agriculture and Climate Change (FACCE), E.C.
- 2011 – 2014 Member, FAC, 3rd Climate Assessment Report, NOAA, Washington, D.C., USA
- 2011 – 2018 Member, Scientific Advisory Board, SERDP, DOD, Washington, D.C., USA
- 2011 – Distinguished University Professor of Soil Science, Columbus, OH, USA
- 2011 – 2012 Sr. Science Advisor, Inst. Advanced Sustainability Studies (IASS), Germany
- 2009 – Adjunct Professor, University of Iceland, Reykjavik, Iceland
- 2001 – 2020 Director, Carbon Management and Sequestration Center, OSU, OH, USA
- 2000 – Director, South Asia Program, IPA, FAES, OSU, Columbus, OH
- 1989 – 2011 Prof. Soil Science, The Ohio State University, Columbus, OH, USA
- 1970 – 1987 Soil Physicist, International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria
- 1968 – 1969 Senior Research Fellow, University of Sydney, Australia
- 1966 – 1968 Research Assistant, OARDC, Wooster, OH, USA
- 1963 – 1965 Research Assistant, The Rockefeller Foundation, New Delhi, India

Professional Affiliations:**Professional Societies**

- American Geophysical Union (1999-)
- American Association for Advancement of Science (1992-)
- Soil and Water Conservation Society (1987-)
- World Association of Soil and Water Conservation (1982-)
- International Commission on Continental Erosion (1982-1987)
- Society for Promotion of Wasteland Development in India (Founding member 1980-)
- International Soil and Tillage Research Organization (1976-)
- International Union of Soil Science (1971-)
- American Society of Agronomy (1966-)
- Soil Science Society of America (1966-)

Offices Held in Professional and Honorary Societies

- **President Elect, President, Past President, International Union of Soil Sciences, Vienna, Austria (2014-2020)**
- **President, Soil Science Society of America (2006-2007)**
- **President, World Association of Soil and Water Conservation (WASWC) (1987-1991)**
- **President, International Soil Tillage Research Organization (ISTRO) (1988-1991)**
- Vice President, International Commission for Continental Erosion, Int’l Assoc. Hydrol. Sciences (1984-1987)
- Vice President, World Association of Soil and Water Conservation (WASWC) (1983-1987)
- Co-Chair, International Committee on Tropical Deforestation (1982-1987)

Other Professional Services

- Global Energy Assessment (GEA), Lead Analyst, UNEP/IIASA, Vienna, Austria (2009-2012)
- Member, Foresight Project Team, Office of Science, Prime Minister, U.K. (2009-2010)
- **Millennium Ecosystem Assessment, Lead Author, Condition Working Group Assessment (2003-2005)**
- **IPCC, Reviewer of IPCC 2000 Report (Working Group II) (2000)**
- **IPCC, Planning Meeting, Revised Guidelines for Practice Guidance, Geneva, Switzerland (2001)**
- **IPCC, Lead author, Special Report on LULUCF, (1998-2000)**
- **Member, U.S. National Committee for Soil Science, National Academy of Sciences, Washington, D.C., (1998-2002; 2008-2010, 2016-2018)**
- IPCC/OECD Member of Workgroup Inter-Governmental Panel on Climate Change, (1993-1996)
- Member, NRC Panel: Sustainable Agriculture & Environment (1990-93), Vetteria (1990-92), Human Impact on GHG Fluxes (2003), Innovative Technologies for South Asia and Sub-Saharan Africa (2006-2008)
- Advisor to “Committee on Agricultural Sustainability for Developing Countries,” World Resources Institute, Washington, D.C. (1990-2000)
- Member, Task Force in “Collaboration Between U.S. Universities and CGIAR” (1993-94), and USAID SLO to CGIAR Centers for Natural Resources (1991-92, 97)
- Co-chair, Tropical Land Clearing for Sustainable Agriculture, IBSRAM, Thailand (1984-1987)
- Chair, International Commission on Tropical Deforestation and Land Development, IITA, Ibadan, Nigeria

Honors:

University Student Honors

- Member, Sigma Xi, Ohio Chapter, Columbus, Ohio, USA (1968)
- Biswas-Desai Gold Medal, and IARI Gold Medal for the highest GPA, IARI, New Delhi, India (1965)
- Academic Roll of Honor, Punjab Agricultural University, Ludhiana, India (1963)
- Gold Medal, for highest GPA, Punjab Agricultural University, Ludhiana, India (1963)
- Highest GPA in Government High School Rajaund, District Jind, Haryana, India (1959)

Professional Honors

- Rao Bahadur Dr. R.D. Singh, Memorial Lecture, HAU, Hisar, India (2018)
- Editor’s Choice Award, SWCS, J. Soil Water Cons. (Delgado et al.) (2012)
- Member, De Tao Masters Academy, Beijing/Shanghai, China, June (2012)
- Professional Service Award, OSU Alumni Association, September (2012)
- Distinguished University Professor of Soil Science, The Ohio State University, Columbus, OH (43210)
- COMLAND Award, Helmholtz Center for Env. Research, Leipzig, Germany (2009)
- **Presidential Lecture, 10 May, Reykjavik, Iceland (2006)**
- Certificate of Appreciation, Los Alamos National Lab, Los Alamos, NM (2005)
- William E. Larson and Ray R. Allmaras Inaugural Lecture, University of Minnesota, (2003)
- Scroll of Honor, Haryana Agricultural University, Hissar, India (2001)
- **University Distinguished Lecture, The Ohio State University (2000)**
- **Honorary Member, World Association of Soil and Water Conservation (2000)**
- **Fellow, National Academy of Agricultural Sciences, India (1998)**
- **Fellow, Soil and Water Conservation Society, Madison, WI (1997)**
- The President’s Citation, Soil and Water Conservation Society, Madison, WI (1996)
- **Fellow, American Association for the Advancement of Science (1996)**
- **Fellow, Third World Academy of Sciences, Trieste, Italy (1992)**
- Member, The Honor Society of Phi Kappa Phi (1991)
- Distinguished Scientist, Association of Scientists of Indian Origin (1990)
- Member, Phi Beta Delta, Honor Society for International Scholars (1990)
- **Fellow, Soil Science Society of America (1986)**
- **Fellow, American Society of Agronomy (1985)**

Honorary Degrees and Medals of Honor

- Doctor of Science, *Honoris Causa*, Indian Agricultural Research Institute (IARI), New Delhi, India (2021)
- Doctor of Science, *Honoris Causa*, Amity University. Noida, Uttar Pradesh, India (2020)
- Doctor of Science, *Honoris Causa*, Pontificia Universidad Católica de Valparaíso, La Palma, Chile (2019)
- Alumni Medalist, 422nd Commencement Medal, Ohio State University (2019)
- Medal of Honor, UIMP, Santander, Spain (2018); Distinguished Service Medal, IUSS, Rio, Brazil (2018)
- Doctor of Science, *Honoris Causa*, Gustavus Adolphus College, Saint Peter, MN, USA (2018)
- Doctor of Science, *Honoris Causa*, University of Lleida, Lleida, Spain (2017)
- Doctor of Science, *Honoris Causa*, Technical University of Dresden, Germany (2015)
- Doctor of Science, *Honoris Causa*, Alecu Russo Balti State University, Republic of Moldova (2010)
- Doctor of Science, *Honoris Causa*, Norwegian Univ. of Life Sciences, Åas, Norway (2005)
- Doctor of Science, *Honoris Causa*, Punjab Agricultural University, Ludhiana, India (2001)

Awards:

- **Padma Shri Award, bestowed on the 72nd Republic Day by the Government of India, New Delhi, India (2021)**
- Ranked #391 globally among Reuters “The Hot List” of top 1,000 climate scientists (2021)
- Ranked #1 in Agronomy & Agriculture; #34 (for 2020) & #73 (1996-2020) Globally among top 2% of scientists by Ioannidis et al. (2019-2021)
- Ohio No-Till Council Outstanding Educator-Researcher Award, Columbus, OH, USA (2020)
- **Arrell Global Food Innovation Award in the Research Category, Guelph, Ontario, Canada (2020)**
- Maharishi International University Award, Fairfield, IA, USA (2020)
- **World Food Prize, Des Moines, IA, USA (2020)**
- **Punjab Agricultural University Soil and Agronomy Building named as “Dr. Rattan Lal Laboratories,” Ludhiana, India (2020)**
- **Japan Prize in “Biological Production, Ecology”, Tokyo, Japan (2019)**
- **GCHERA World Agriculture Prize, Nanjing, China (2018)**
- **Glinka World Soil Prize, FAO, Rome, Italy (2018)**
- U.S. Awasthi IFFCO Award, New Delhi, India (2019)
- Best Research Paper for Impact and Quality Honorable Mention Award, Soil and Water Conservation Society, Ankeny, IA, USA (2020)
- Sustained Achievement Award, Renewable Natural Resources Foundation, Washington, DC, USA (2017)
- Atlas Award, The Best Paper Among 1800 Journals, Elsevier Science Publisher, Amsterdam, Holland (2016)
- USDA-NIFA, Partnership Award: Multistate Effort, CS-Cap, ISU, Ames/USDA, Washington, DC, USA (2016)
- INRA, Morocco Government Award for Strategic Development of Earth System Science Worldwide, Marrakech, Morocco (2016)
- The Editor’s Choice Award (2015); Honorable Mention (2015) Soil and Water Conservation Society, Ankeny, IA, USA
- Clarivate-Thomson Reuters Highly Cited Researchers in Agricultural Sciences (top 1%), (2014 - 2021)
- **Rothamsted Fellow, Rothamsted, UK (2013)**
- **Global Drylands Champion, UNCCD, Bonn, Germany (2013)**
- Honorary Member, ISSS, New Delhi, India (2012), WASWAC (2000), DBG: Korrespondierendes Mitglied (2020)
- Distinguished Achievement in Agriculture Award, Gamma Sigma Delta International, Columbus, OH, USA (2012)
- Professional Achievement Award (2012), The Ohio State University, Alumni Association, Columbus, OH, USA
- **Distinguished University Professor, The Ohio State University, Columbus, OH, USA (2011)**
- **Swaminathan Award, TAAS, New Delhi, India (2009)**
- Cordban Award, University of Cordoba, Spain (2008)
- **2007 Nobel Peace Prize Certificate from IPCC, Geneva, Switzerland (2007)**
- **Liebig Award, Int. Union of Soil Sciences, IUSS, Philadelphia, USA/Vienna, Austria (2006)**
- **Zayed International Prize for the Environment, Millennium Ecosystem Assessment, Author Award (2005)**
- Carl Sprengel Agronomic Research Award, American Society of Agronomy, Madison, WI, USA (2005)
- **Borlaug Award, Coromandel, New Delhi, India (2005)**
- Environment Quality Research Award, American Society of Agronomy, Madison, WI, USA (2004)
- Soil Science Research Award, Soil Science Society of America, Madison, WI, USA (2002)
- Outstanding Publication Award, Soil and Water Conservation Society-Ohio Chapter, Ankeny, IA, USA (2000)
- Distinguished Alumni Award, Punjab Agricultural University, Ludhiana, India (1999)
- **Hugh Hammond Bennett Award, Soil and Water Conservation Society, Ankeny, IA, USA (1998)**
- International Agronomy Award, American Society of Agronomy, Madison, WI, USA (1995)
- OARDC Research Awards, The Ohio State University, Wooster, OH, USA (1996, 1997, 1999, 2001)
- **Distinguished Scholar Award, The Ohio State University, Columbus, OH, USA (1994)**
- Soil Science Applied Research Award, Soil Science Society of America, Madison, WI, USA (1992)
- International Soil Science Award, Soil Science Society of America, Madison, WI, USA (1988)
- IITA Dedicated Service Award, Ibadan, Nigeria (1987)

Major Scientific Contributions:

1. Biological methods of soil erosion control (mulch farming, conservation agriculture, cover cropping) in the tropics (1970-1980)	Citations Indices (as of 12/2021): Google Scholar	
	All	Since 2016
2. Soil guide to adoption of conservation tillage based on soil and ecosystem characteristics (1980-1985)	Citations	129,861
3. Ecological methods of land development and deforestation in the tropics for protecting the fragile ecosystems (1975-1985)	h-index	62,461
4. Manual to assess sustainable management of soil in the tropics (1990-1995)	i10-index	172
5. Soil carbon sequestration to mitigate climate change and enhance sustainable intensification of agroecosystems (1990-2018)		1055
6. Restoring degraded/eroded soils through soil carbon management and restoration of soil health (1995-2018)		763
7. Sustainable soil management and global food security, and producing more from less by enhancing eco-efficiency (1970-2019)		