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## EDUCATION

1976 Ph. D. Agronomy and Soil Science, Louisiana State University, Baton Rouge, La  
Minors: Geology and Nuclear Science.  
1967 M. S. Agronomy. A.P. Agricultural University, India.  
1965 B. S. Agriculture, A.P. Agricultural University, India.

## PROFESSIONAL EXPERTISE

Biogeochemistry; Water, Land, and Ecosystems; Soil and Water Quality; Rice Ecosystems;  
Constructed Wetlands for Water Treatment; Watershed Management; Wetlands, Riverine, and  
Aquatic Ecosystem Restoration; Climate Change; Carbon Sequestration and Greenhouse Gases.  
Distance Education and On-line programs.

## PROFESSIONAL EXPERIENCE

1993-present	University of Florida	Graduate Research Professor [Distinguished Professorship at UF]
2000-2018	University of Florida	Chairman – Soil and Water Sciences
2010-2012	University of Florida	Research Foundation Professor
1999-2000	University of Florida	Research Foundation Professor
1999-2000	University of Florida	Associate Director, Center for Natural resources
1984-1993	University of Florida	Professor
1982-1984	University of Florida	Associate Professor
1981-1982	University of Florida	Assistant Professor
1979-1981	University of Florida	Assistant Research Scientist
1976-1979	North Carolina State Univ.	Postdoctoral Research Associate
1974-1976	Louisiana State University	Research Associate
1971-1974	Louisiana State University	Graduate Research Assistant
1967-1971	A. P. Agri. University	Instructor

## PROFESSIONAL RECOGNITION

2018 Golden Cattail Award for lifetime contributions to the field of wetland biogeochemistry.  
12<sup>th</sup> International Symposium on Biogeochemistry of Wetlands, Coral Springs, Florida  
April 23-27, 2018.  
2016 National Wetlands Award-Research – Environmental Law Institute, Washington DC.  
2016 Lifetime Achievement Award -Society of Wetland Scientists  
2012 Lifetime Achievement Award – INTECOL – Wetlands- presented at the 9<sup>th</sup> INTECOL  
Wetlands conference, Orlando, Florida June 4-9, 2012.  
2007 Gamma Sigma Delta International Award  
2005 University of Florida Doctoral Dissertation Advisor/Mentoring Award

2004 Fellow-World Innovation Foundation  
2002 Sigma Xi Senior Faculty Research Award  
2002 Environmental Quality Research Award, American Society of Agronomy  
2001 Fellow - American Association for the Advancement of Science  
2001 Soil Science Applied Research Award, Soil Science Society of America  
1999-2001 and 2010-2012 - University of Florida Research Foundation Professor  
1998- Edward Deevey Jr. Award, Florida Lake Management Society  
1993 - Appointed as Graduate Research Professor (distinguished professorship)  
1990, 1991, and 1992. University of Florida Research Award  
1988 Fellow - Soil Science Society of America  
1988 Fellow - American Society of Agronomy

### **ADMINISTRATIVE EXPERIENCE**

Chair of Soil and Water Sciences Department (July 1, 2000 – June 30, 2018)  
(<http://soil.ifas.ufl.edu>).

The chair serves as the faculty's representative to the UF/IFAS administration, and the administration's representative to the faculty. The primary role of the chair is to develop excellence in various sub-disciplines of soil and water science by functioning as a leader and facilitator, guiding and overseeing the department's personnel in providing needed services to clientele in the State of Florida. The chair is responsible for development and coordination of teaching (College of Agriculture), research (Florida Agricultural Experiment Station) and extension (Florida Cooperative Extension Service) functions in the department and for disciplinary leadership and coordination with Center Directors of IFAS Research and Education Centers throughout the state with Soil and Water Science programs. Administrative duties include budgetary and personnel management related to the department's faculty, staff and students and to such service functions as the Analytical Research Laboratory and the Extension Soil Testing Laboratory.

My philosophy to providing leadership to the SWSD is simple, practical, and goal oriented with accountable products in teaching, research, and extension. For SWSD to be successful, it must promote excellence, maintain flexibility and viability, preserve quality, remain accountable, be relevant, and respond effectively to the clientele needs. For example, commitment to excellence does not mean that we can be all things to all people. However, all programs offered by SWSD must live up to their full potential for true excellence and integrity in addressing the most pressing needs of our clientele. As Chair of SWSD, with this philosophy I provided such a leadership by working with faculty in developing a productive and successful department that can compete for resources and funds and effectively meet the needs of our diverse clientele.

### **GRADUATE AND POST GRADUATE PROGRAM ACTIVITIES**

I introduced Wetland and Aquatic Systems Science as one of the research thrust area of the Soil and Water Sciences Department and developed a strong graduate program by recruiting students from various disciplines into the department. Many of my former graduate students and post-doctoral fellows now have active programs in universities, governmental agencies, and consulting companies.

**Chairman: M.S. Students:** R. Ogwada (1983); P. Burgoon (1988); L. Scinto (1989); D. Ivanoff, (1994); R. Heilman, (1995); A. Hoffner (1995); J. Martin (1995); G. McLatchy (1996); M. Fisher(1997); P. Inglett (1999); Q. Clark (2002); Michelle Rau (2002); Mayumi Seo (2002); Shannon Curtis (2004); Ryan Penton (2005); C. Bohall (2008); C. Catts (2007); C. Hicks (2008); E. Solchik (2009); and Stephanie Jamis (2017)

**Chairman: Ph.D. Students:** K. Moorhead (1986); S. Newman (1991); O. Olila (1992); P. Burgoon (1993); Y. Ann (1996); W. F. DeBusk (1996); L. Scinto (1997); E. M. D'Angelo (1998); J. R. White (1999); T. Chua (2000); M. Clark (2000); A. Wright (2002); Ron Corstanje (2003); P. Inglett (2005); J. Leader (2005); Todd Osborne (2005); Isabela Torres (2007); Matt Fisher (2007); Angelique Keppler (2007); Lynette Malecki (2007); Melisa Martin (2008); Rongzhong Ye (2010); A. Cheesman (2010); Kim Haryun (2010); Lisa Gardner (2012); Lucy Ngatia (2012); Kiara Winans (2012); Rupesh Bhomia (2013); Jing Hu (2014); Christine VanZomeran (2015); Anna Normand (2017); Hanh Nguyen (current); and Tracey Schafer (current).

**Additional Graduate Student Committees:** Since 1987, served on 130+ graduate student committees.

**Post doctoral fellows:** M. Agami; G. Bao; Mark Clark; I. Devai; O. Diaz; P. Gale; Philip Moore; Kevin Moorhead; A. Neori; S. Robinson; O. Olila; H. Pant; Joe Prenger; L. A. Schipper; M.L. Silveira, Ben Turner, John White, Ed Dunne; Patrick Inglett; Todd Osborne, Kanika Inglett; Brent Ballinger; Jing Hu; Tanmouy Bera (current) and Lilit Vardanyan (current).

Research Assistant Professors/Assistant Research Scientists

Paula Gale; Bill DeBusk; Joe Prenger; Mark Clark, John White, Ed Dunne, Todd Osborne, and Kanika Inglett (current).

**Current employers of former graduate students and post-doctoral associates** (selected examples):

Graduate students:

R. Bhomia, Research Associate, University of Florida  
P. Burgoon, Sr. Environmental Engineer, Water Quality Engineering, Inc. WA  
T. Chua, Research Associate, University of Georgia  
M. Clark, Associate Professor, University of Florida  
Lisa G. Chambers, Assistant Professor, University of Central Florida  
Alex Cheesman, Post-doctoral Fellow, Smithsonian Tropical Research Institute, Panama  
R. Corstanje, Professor, Cranfield University, England  
W. F. DeBusk, Environmental Consultant, DB Environmental Lab  
E. M. D'Angelo, Associate Professor, University of Kentucky.  
Matt Fisher, Environmental Consultant, Seattle, WA  
Angelique Keppler, Senior Water Resource Scientist, AMEC  
P. W. Inglett, Associate Professor, University of Florida  
D. Ivanoff, Senior Environmental Scientist, South Florida Water Management District.

J. Leader, Assistant Professor, Wor-Wic Community College, Maryland  
Melisa Martin, Scientist, USDA-NRCS  
K. Moorhead, Professor, University of North Carolina, Asheville  
L. Ngatia, Research Associate, Florida A&M University, Tallahassee, FL  
Sue Newman, Senior Environmental Scientist, South Florida Water Management District.  
Oscar Olila, Environmental Chemist  
T. Z. Osborne, Assistant Professor, Whitney Laboratory, University of Florida  
L. J. Scinto, Associate Professor, Florida International University.  
J. R. White, Professor and Associate Dean-Reserach, Louisiana State University  
A.L. Wright, Professor, University of Florida  
C. M. VanZomeren, Research Ecologist, USACE ERDC -Vicksburg, MS  
Rongzhong Ye, Assistant Professor, Clemson University, SC

Post-doctoral Associates:

P. A. Moore, Research Scientist, USDA-ARS, University of Arkansas, Fayetteville,  
P. M. Gale, Professor, University of Tennessee-Martin.  
O. Diaz, Senior Environmental Scientist, South Florida Water Management District.  
I. Devai, Research Assistant Professor, Louisiana State University.  
E. O. Dunne, Program Officer, The National Academies of Sciences, Engineering, and Medicine  
K. Inglett, Research Assistant Professor, University of Florida  
H. K. Pant, Assistant Professor, Lehman College, the City University of New York  
S. J. Robinson, Associate Professor and Head of Department, Geography and Environmental  
Science, University of Reading, England.  
L. J. Schipper, Professor, University of Waikato, New Zealand.  
M.L. Silveira, Associate Professor, University of Florida  
Ben Turner, Research Scientist, Smithsonian Tropical Research Institute, Panama.

**Graduate Coordinator (July 1998 - July 2000).**

- Increased the visibility of graduate programs by developing graduate student brochures and posters. Revised the departmental graduate program web site.
- Organized the First Annual Graduate Student Forum for Soil and Water Science to promote departmental research and educational programs.
- Increased promotional efforts helped to increase graduate student enrollment by 25%.
- Initiated graduate student meetings to develop interaction among students.

**TEACHING**

My major educational contribution during my tenure at the University of Florida (UF), is the introduction of interdisciplinary courses in wetland sciences. I introduced Wetland Science as one of the major graduate teaching thrust area within the Soil and Water Science Department. My goals for teaching are to: (1) develop strong linkages between teaching and research by translating current advances in research into the classroom so that students can derive immediate benefit for being enrolled in a large research institution such as UF, (2) instigate critical thinking in students both at undergraduate and graduate level and to develop their questioning ability on recent research findings, and (3) motivate students to follow strong work ethics by setting goals high and helping them to accomplish those goals.

**SWS 6448 Biogeochemistry of Wetlands** (3 credits): Biogeochemical cycles of macro-elements (carbon, nitrogen, phosphorus, and sulfur), metals (iron and manganese) and toxic organic compounds in wetland soils and aquatic sediments, as related to their agronomic and ecological significance including plant productivity, elemental sequestration, greenhouse gas emissions, water quality and ecological restoration).

**SWS 6448 Biogeochemistry of Wetlands** (3 credits): **Distance Education Section** offered via Internet, Adobe Connect Breeze Live, and Chat sessions). The content of this course is similar to that offered on campus. The mode of delivery is different. All lectures are recorded using Adobe Connect Breeze and placed on the web site. Students review these lectures and participate in a 3-hour/week chat session. The Adobe Connect Breeze Live, allows students to log-in and discuss the topic covered in the lecture.

## **RESEARCH**

Wetland soil and lake sediments serve as sinks, sources, and transformers of nutrients and other chemical contaminants, and as such they can have a significant impact on water quality and ecosystem productivity. The primary driver of these processes is the ecosystem biogeochemistry, which includes chemical, biological and physical processes in the sediment/soil and water column. Often, these processes are ignored and the ecosystem is treated as a 'black box' and a simplified input-output analysis is used to address water quality issues. This traditional empirical approach is inadequate for effective evaluation of an ecosystem's performance. Biogeochemistry is an interdisciplinary science which provides a framework to integrate physical, chemical and biological processes functioning in an ecosystem at various spatial scales.

One of my major contributions to wetlands and aquatic system science has been the development of interdisciplinary research and graduate education programs. My research group carried out research for 40 years on biogeochemical cycling of nutrients in soil-water-plant components of flooded rice soils and wetland ecosystems. Our research involved in establishing the role of wetland soils and lake sediments as sinks, sources, and transformers of nutrients and other chemical contaminants, and their impact on water quality and ecosystem productivity. Our program promoted the concept that the primary driver of these processes are governed by the ecosystem biogeochemistry, which includes chemical, biological and physical processes in the sediment/soil and water column functioning at various spatial and temporal scales. Often, these processes are ignored and the ecosystem is treated as a "black box" and a simplified input-output analysis is used to address water quality issues. This traditional empirical approach is inadequate for effective evaluation of an ecosystem's performance. Our research group effectively integrated soil science principles to address these issues. This led to interdisciplinary work with scientists from various disciplines including ecology, biology, limnology, and engineering.

Founder of Wetland Biogeochemistry Laboratory (WBL) within the Soil and Water Science Department (SWSD). Our group research has focused on three main themes: (1) science and technology in topical areas of biogeochemistry with emphasis on macro-elemental cycling; soil and water quality; wetlands and aquatic ecosystem restoration; carbon sequestration and greenhouse gases, (2) biogeochemical/ecological indicators/processes; and (3) application of

basic research to solve real-world problems. Since much my research activities are interdisciplinary, I work closely with scientists from various disciplines.

***Phosphorus Biogeochemistry:*** Our research simultaneously determined the importance of various soil processes including adsorption-desorption, chemical precipitation, microbial uptake and release, and exchange between soil and the overlying water column. Our research showed relative importance of these processes in regulating the recovery of an ecosystem after external phosphorus loads are curtailed. For example, our research revealed the critical threshold concentrations of water-column phosphorus for wetlands and streams. Our research on Lake Okeechobee sediments revealed the role internal cycling in regulating water quality. Our research on long-term accumulation of P in the Everglades was a key factor in designing storm-water treatment wetlands. Our group also led state-wide efforts to determine phosphorus memory in the water and developed linkages on phosphorus transfers within and between ecosystems. This research is funded by USDA and state agencies.

***Biogeochemical Indicators:*** Based on their research in the Everglades, our group has identified several biogeochemical indicators that respond rapidly (on short-time scales) to external nutrient loading and serve as diagnostic tools that provide early warning signals of ecosystem health. This was recognized as an important advancement by state and federal agencies and has resulted in funding by federal agencies: NSF, USEPA and USDOD.

***Coupled Biogeochemical Cycles:*** Wetlands host complex biotic communities, and it is expected that the size and diversity of these communities are directly related to the quality and quantity of available resources. Wetlands are essential for maintaining an ecological balance through elemental cycling and are sensitive to anthropogenic impacts. Our current and future research involves studying the inter-relationships between and within carbon, nitrogen, phosphorus, and sulfur cycles as influenced by both external and internal forcing functions. Both biotic and abiotic processes regulating these cycles are studied at multiple scales (molecular to landscape)

***Application of Basic Research:*** We strive to translate research findings to solve real-world problems. For example, our basic and applied research on biogeochemical processes in wetlands is now used in the design of constructed wetlands for maximum removal efficiency. Our group works with state and federal agencies and provides them with scientific information for the development of management options and policy guidelines.

Research supported by University of Florida, U. S. Department of Agriculture, U. S. Environmental Protection Agency, U. S. Department of Defense, National Science Foundation, National Park Service, U. S. Department of Defense, South Florida Water Management District, St. Johns River Water Management District, Orange County and City of Orlando.

Our on-going and long-term goals are to : (1) develop a data-base on characterization of wetland soils and aquatic sediments for incorporation into spatial and mechanistic models; (2) determine biogeochemical indicators for routine use to evaluate pollutant impacts in wetlands and aquatic systems; (3) develop tools to extrapolate process-level information to a wide range of spatial and

temporal scales for use in restoration and management of wetlands and aquatic systems; (4) integrate process level information into policy development and regulation, and (5) promote interdisciplinary teaching, research and extension programs with other disciplines including ecology, limnology and hydrology.

### **PUBLICATIONS (since 2011)**

(Career 410+ refereed journal articles, book chapters, and books).

[https://scholar.google.com/citations?hl=en&user=NvSbyMoAAAAJ&view\\_op=list\\_works](https://scholar.google.com/citations?hl=en&user=NvSbyMoAAAAJ&view_op=list_works)

Google Scholar: 27,000+ citations. H-index = 84.

#### **A. Books**

Reddy, K. R, and R. DeLaune. 2008. *Biogeochemistry of Wetlands: Science and Applications*. pp.774. CRC Press, Boca Raton, Florida.

Reddy, K. R, and R. DeLaune. 2019. *Biogeochemistry of Wetlands: Science and Applications*. Second Edition (in preparation) CRC Press, Boca Raton, Florida.

#### **B. Books, Editor**

DeLaune, R.D, K. R. Reddy, P. Megonigal, and C. J. Richardson. 2013. *Methods in Biogeochemistry of Wetlands*. Soil Science Society of America, Madison, WI. 1024 p

Reddy, K. R., G. R. Best, and F. Sklar. 2011. *Biogeochemistry and Water Quality of the Everglades*. Special Issue. *Critical Reviews in Environmental Science and Technology*.

#### **C. Chapters in Books**

Salvador Sánchez-Carrillo, K. Ramesh Reddy, Kanika S. Inglett, Miguel Álvarez-Cobelas and Raquel Sánchez-Andrés. 2014. *Biogeochemical Indicators of Nutrient Enrichments in Wetlands: The Microbial Response as a Sensitive Indicator of Wetland Eutrophication*. A. A. Ansari, S. S. Gill (eds.), *Eutrophication: Causes, Consequences and Control*, DOI 10.1007/978-94-007-7814-6\_15, © Springer Science+Business Media Dordrecht. P. 203-222.

Fisher, M.M., and K.R. Reddy. 2013. *Soil Pore Water Sampling Methods*. Chapter 4, page 55-68. *In: R.D. DeLaune, K.R. Reddy, C.J. Richardson, and P.J. Megonigal, eds. Methods in Biogeochemistry of Wetlands*, Soil Science of America. Madison, WI. 1024 pp.

Inglett, K. S., A.V. Ogram, and K.R. Reddy. 2013. *Ammonium Oxidation in Wetland Soils*. Chapter 26, page 485-502. *In: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.

Nair, V. D and K. R. Reddy. 2013. *Phosphorus Sorption and Desorption in Wetland Soils*. Chapter 34, page 667-683. *In: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.

Reddy, K. R., T. Chua, and C.J. Richardson. 2013. *Organic Phosphorus Mineralization in Wetland Soils*. Chapter 35, page 683-700. *In: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.

- Reddy, K. R., M.W. Clark, R.D. DeLaune, and M. Kongchum. 2013. Physicochemical Characterization of Wetland Soils. Chapter 3, page 41-52. *In*: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. *Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.
- Richardson, C. J and K.R. Reddy. 2013. Methods for Soil Phosphorus Characterization and Analysis of Wetland Soils. Chapter 32, page 603-638. *In*: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. *Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.
- VanZomeran, C. M., H. Knicker, W.T. Cooper, and K.R. Reddy. 2013. Characterization of Organic Nitrogen in Wetlands. Chapter 23, page 438-464. *In*: R. D. DeLaune, K. R. Reddy, C. J. Richardson, and P. J. Megonigal, eds. *Methods in Biogeochemistry of Wetlands*, Soil Science Society of America. Madison, WI. 1024 pp.
- Inglett, P.W., K.R. Reddy, E.M. D'Angelo, and W.G. Harris. 2012. Biogeochemistry of Wetlands. *In*: *Handbook of Soil Science*. 2nd Ed. 30 pp. CRC Press.
- White, J.R. and K. R. Reddy. 2009. Biogeochemical Dynamics I: Nitrogen Cycling in Wetlands. *In* *The Wetlands Handbook*. E. Maltby and T. Barker (eds.) Blackwell Publishing. UK. Pp 213-227. ISBN 978-0-632-05255-4

#### **D. Refereed Publications (2011-2018)**

- Bhomia, R. K. and K. R. Reddy. 2018. Influence of vegetation on long-term phosphorus sequestration in subtropical treatment wetlands. *J. Environmental Quality*; doi: 10.2134/jeq2017.07.0272.
- Hu, J., VanZomeran, C. M., Inglett, K. S., Wright, A. L., Clark, M. W., & Reddy, K. R. 2017. Greenhouse gas emissions under different drainage and flooding regimes of cultivated peatlands. *Journal of Geophysical Research: Biogeosciences*, 122:3047–3062
- Newman, S., T.Z. Osborne, S.E. Hagerthey, C. Saunders, K. Rutchey, T. Schall, K.R. Reddy. 2017. Drivers of landscape evolution: multiple regime shifts and their influence on carbon sequestration in a sub-tropical peatland. *Ecological Monographs* 87(4): 578-599.
- Normand, A.E., A.N. Smith, M.W. Clark, J.R. Long, K. R. Reddy. 2017. Chemical Composition of Soil Organic Matter in a Subarctic Peatland: Influence of Shifting Vegetation Communities. *Soil Science Society of America Journal* 81: 41-49.
- Torres, I. C., B. L. Turner, and K. R. Reddy. 2017. Phosphatase activities in sediments of subtropical lakes with different trophic states. *Hydrobiologia*. 788:305–318
- Xu, S.<sup>g</sup>, Silveira, M.L., Ngatia, L.W.<sup>g</sup>, Normand, A.E.<sup>g</sup>, Sollenberger, L.E., Reddy, K.R. 2017. Carbon and nitrogen pools in particle-size fractions as affected by sieving method and land use intensification. *Geoderma* 305:70-79.
- Zhao, Dehua, Penghe Wang, Jie Zuo, Hui Zhang, Shuqing An, and K. R. Reddy. 2017. Are the traditional large-scale drought indices suitable for shallow water wetlands? An example in the Everglades. *J. Environmental Management* 198: 240 -247.
- Reddy, K. R. 2016. Review of Wetland Soils: Genesis, Hydrology, Landscapes, and Classification. *Vadose Zone J.* 15: 12.
- Hu, J., K. S. Inglett, A. L. Wright, and K. R. Reddy. 2016. Nitrous Oxide Production and Reduction in Seasonally-Flooded Cultivated Peatland Soils *Soil Science Society of America Journal* 80: 783-793
- H Kim, H, H.S. Bae, K. R. Reddy, A. Ogram. 2016. Distributions, abundances and activities of



- microbes associated with the nitrogen cycle in riparian and stream sediments of a river tributary. *Water Research*. 106:51-61.
- Morrison, E, S. Newman, H.S. Bae, Z. He, J. Zhou, K.R. Reddy, and A Ogram. 2016. Microbial genetic and enzymatic responses to an anthropogenic phosphorus gradient within a subtropical peatland. *Geoderma*. 268, 119-127
- Bae, H.S., M. E Holmes, J. P Chanton, K. R Reddy, and A Ogram. 2015. Distribution, Activities, and Interactions of Methanogens and Sulfate-Reducing Prokaryotes in the Florida Everglades." *Applied and environmental microbiology* 81 (21), 7431-7442
- Bai, J., Q. Zhao, Q. Lu, J. Wang, and K.R. Reddy. 2015. Effects of freshwater input on trace element pollution in salt marsh soils of a typical coastal estuary, China. *Journal of Hydrology* 520, 186-192
- Bhomia, R.K., P. W Inglett, and K. R Reddy. 2015. Soil and phosphorus accretion rates in subtropical wetlands: Everglades Stormwater Treatment Areas as a case example." *Science of The Total Environment* 533, 297-306
- Hu, J., K. S Inglett, M. W Clark, P. W Inglett, and K. R. Reddy. 2015. Nitrous oxide production and consumption by denitrification in a grassland: Effects of grazing and hydrology." *Science of The Total Environment* 532, 702-710
- Jørgensen, C., K.S. Inglett, H.S. Jensen, K. Reitzel, and K.R. Reddy. 2015. Characterization of biogenic phosphorus in outflow water from constructed wetlands." *Geoderma*, 257-258:
- Nair, V.D., M. W Clark, and K. R. Reddy. 2015. Evaluation of Legacy Phosphorus Storage and Release from Wetland Soils." *Journal of Environmental Quality* 44 (6), 1956-1964
- Ngatia, L. W., B. L. Turner, J. T. Njoka, T. P. Young, and K. R. Reddy. 2015. The effects of herbivory and nutrients on plant biomass and carbon storage in Vertisols of an East African savanna." *Agriculture, Ecosystems & Environment* 208, 55-63
- Orem, O., S. Newman, T. Z. Osborne, and K. R. Reddy. 2015. Projecting Changes in Everglades Soil Biogeochemistry for Carbon and Other Key Elements, to Possible 2060 Climate and Hydrologic Scenarios." *Environmental management* 55 (4), 776-798
- Osborne, T. A., S. Newman, K.R. Reddy, L.R. Ellis, and M.S. Ross. 2015. Spatial distribution of soil nutrients in the Everglades protection area." *Microbiology of the Everglades Ecosystem*, 38
- Ogram, A., J. A. Entry, A. Gottlieb, K.R. Reddy, K. Jayachandran. 2015. Closing Thoughts on the Role of Microbial Ecology in Management and Monitoring of the Greater Everglades Ecosystem. *Microbiology of the Everglades Ecosystem*, 445
- Turner, B. L., I. C. Torres, and K.R. Reddy. 2015. Response to Comment on "The Chemical Nature of Phosphorus in Subtropical Lake Sediments", by Kenney et al." *Aquatic Geochemistry* 21 (1), 7-9.
- VanZomerem, C.M., and K. R. Reddy. 2015. Use of a Modified Chemical Fractionation Scheme to Characterize Organic Nitrogen in Wetland Soils." *Soil Science Society of America Journal* 79 (5), 1509-1517
- Winans, K.S., K. L. Sahrawat, S. P. Wani, R. S. Mylavarapu, and K. R. Reddy, E. A. Hanlon. 2015. Effects of Diversification of Rainfed Cropping Systems to Enhance Sustained Yields for Semi-Arid Tropical Agroecosystems: Effects of 11-Years of Farmers' Practice." *Journal of the Indian Society of Soil Science* 63 (2), 166-172
- Bai, J, R. Xiao, Q. Zhao, Q. Lu, J. Wang, K.R Reddy. 2014. Seasonal Dynamics of Trace

- Elements in Tidal Salt Marsh Soils as Affected by the Flow-Sediment Regulation Regime”. *PloS one* 9 (9), e107738.
- Torres I.C, B.L Turner, K.R Reddy. 2014. The Chemical Nature of Phosphorus in Subtropical Lake Sediments”. *Aquatic Geochemistry* 20 (4), 437-457.
- Cheesman. A.W, B.L Turner, K.R Reddy. 2014. Forms of organic phosphorus in wetland soils”. *Biogeosciences Discussions* 11 (6), 8569-8605.
- Kadiyala. M. D. M, R.S. Mylavarapu, Y.C. Li, G.B. Reddy, K.R. Reddy, M.D. Reddy. 2014. Uptake efficiency of 15N-urea in flooded and aerobic rice fields under semi-arid conditions. *Paddy and Water Environment*, 1-12.
- Turner. Bl. , I.C Torres, K.R .Reddy. 2014. Response to Comment on “The Chemical Nature of Phosphorus in Subtropical Lake Sediments”, by Kenney et al. *Aquatic Geochemistry*, 1-3.
- Sánchez-Carrillo. S, KR Reddy, KS Inglett, M Álvarez-Cobelas. 2014. Biogeochemical Indicators of Nutrient Enrichments in Wetlands: The Microbial Response as a Sensitive Indicator of Wetland Eutrophication”. *Eutrophication: Causes, Consequences and Control*, 203-222.
- Ngatia, L. W, K. R. Reddy, P.K. R. Nair, R. M. Pringle, T. M. Palmer, B. L. Turner 2014. Seasonal patterns in decomposition and nutrient release from East African savanna grasses grown under contrasting nutrient conditions. *Agriculture, Ecosystems and Environment* 188: 12–19
- Fisher, M. M., K. R. Reddy, B. L. Turner, and L. W. Keenan. 2014. Millennial-Scale phosphorus transformations during diagenesis in a subtropical peatland. *Soil Sci. Soc. Am. J.* 78:1087-1096.
- Chambers, L.G., T.Z. Osborne, and K.R. Reddy. 2013. Effect of salinity pulsing events on soil organic carbon loss along an intertidal wetland gradient: A laboratory experiment. *Biogeochemistry*. 115:363-38.
- Osborne, T.Z., K.R. Reddy, L.R. Ellis, N.G. Aumen, D.D. Surratt, M.S. Zimmerman, and J. Sadle. 2013. Evidence of recent phosphorus enrichment in surface soils of Taylor Slough and northeast Everglades National Park. *Wetlands* 34(1) 37-45
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## **CONTRACTS AND GRANTS**

- **Career Summary, 1979-2017 period:** Principal Investigator or Co-Principal Investigator for extramural research grants totaling over \$30 million as PI and as Co-PI. Funding agencies have included federal agencies (USDA, DOE, DoD, EPA, NSF, Sea Grant), and state agencies (Florida Department of Agriculture and Consumer Services; Florida Department of Environmental Protection; South Florida Water Management District, St. Johns River Water Management District, and Orange County).

## **INTERNATIONAL ACTIVITIES [select examples]**

During professional career, traveled to 30+ countries, worked with international organizations and scientists, presented professional lectures, key note and invited presentations, and conducted conferences and symposia. Trained several international graduate students, postdoctoral scientists, and visiting scientists.

International distance education in agricultural, natural resources, and environmental sciences to improve capacity building. Long-term goals are to assist developing countries in capacity building in areas of soil and water quality and agricultural productivity.

As a part of IFAS team, along with Wayne Smith and Eric Jokela, I visited Czech Republic and to discuss mutual collaboration possibilities with SWSD. This visit laid ground work for future offering of summer short courses in Czech Republic.

US/Ireland Exchange Program - Phosphorus Retention by Wetlands: The SWSD served as host to Ed Dunne, graduate student from Ireland as part of US/Ireland Exchange Program. This program was jointly funded by US/Ireland Co-operation Program in Agricultural Science and Technology, International Organization Office, Foreign Agricultural Service, USDA, and the Irish Department of Agriculture, Food and Rural Development (DARFD), Johnstown Castle, Co. Wexford, Rep. of Ireland. Collaborators from Ireland included: Dr. Owen T. Carton, Head of Land Use and Environment Department, Teagasc Research Center, Johnstown Castle, Co. Wexford, Rep. of Ireland.

The University of Florida-IFAS and Teagasc Research Center, Johnstown Castle, Co. Wexford, Rep. of Ireland jointly organized an international symposium on Nutrient Management in Agricultural Watersheds: A Wetlands Solution, during May 24-26, 2004, Wexford, Ireland. The Symposium provided a forum for synthesis and interpretation of current status on the role of wetlands to improve water quality in agricultural catchments. Served as the U.S coordinator for this symposium.

U.S-India Agriculture Knowledge Initiative. I was responsible to secure two projects on Water Management are (one as PI and the second one as Co-PI) funded through this program. USDA selected 9 proposals nationwide and two UF proposals are part of that program.

Organized a Indo-US workshop on "Innovative E-technologies for Distance Education and Extension/Outreach for Efficient Water Management", Patancheru/Hyderabad, India, March 5-9, 2007. Presented two talks at the workshop. This workshop was jointly organized by UF and ICRIAT (International Crops Research Institute for Semi-arid Tropics).

### **EDITORIAL ADVISORY BOARDS**

- Associate Editor and Member of the Editorial Board, *Journal of Environmental Quality*, 1985-90; 1994-96.
- Associate Editor, *Wetlands Ecology and Management*, an International Journal published by SPB Academic Publishing, The Hague, The Netherlands, 1988-2000
- Member of Editorial Board, *Critical Reviews in Environmental Science and Technology*, CRC Press, Boca Raton, FL., 1992 to date
- Member of Editorial Board, *Ecological Engineering*, Elsevier Publishers. 1994 to 2014.
- Member of Editorial Board, *Nutrient Cycling in Agroecosystems*, Kluwer Academic Publishers. 1999-2009.

### **NATIONAL AND INTERNATIONAL COMMITTEES**

#### **[select examples]**

- One Agriculture-One Science: A Global Education Consortium. Founding member of the steering committee to develop this educational consortium.
- USEPA Science Advisory Board (SAB) -Ecological Process and Effects Committee (EPEC) 2014-16
- USEPA Science Advisory Board (SAB) -Panel for the Review of the EPA Water Body Connectivity Report 2013-14
- Florida Senate Everglades Technical Review Team, University of Florida. 2014-15
- International Atomic Energy Agency- Expert Mission to Guatemala, March 3-9, 2013. TC Project: Evaluating the impact of anthropogenic contamination on aquatic ecosystems.
- Member, U. S. National Research Council Committee – Everglades Restoration, National Academy of Sciences - 2007-2014
- International Atomic Energy Agency- Expert Mission to Honduras, August 5-11, 2012.
- U.S. Environmental Protection Agency, Science Advisory Board's Ecological Processes and Effects Committee -2012-2015.
- Co-Chair – Organizing and Program Committee – 2000, 2003, 2006, 2008, 2010, 2012,

2015, 2017, and 2019. Greater Everglades Ecosystem Restoration (GEER) Conference organized at different locations in Florida.

- Member- National Environment Research Council and the Global Environmental Research Committee of the Royal Society, Feb 8-10, 2010, London.
- Program Leader, UF-ICRISAT International Education Center, Hyderabad, India (ICRISAT –International Crops Research Institute for Semiarid Tropics)
- Member, U. S. National Committee on Soil Science, National Academy of Sciences - 2003-08
- U.S. Environmental Protection Agency, Science Advisory Board Panel -2007 – 2008.
- Executive Board – Soil Management Collaborative Research Management Program - 2004- 2008
- International Atomic Energy Agency – Wetlands Consultants
- Soil Science Society of America Fellows Committee – 2007-2008
- Society of Wetland Scientists – Strategic Planning Committee
- Co-Chair – Organizing and Program Committee – 9<sup>th</sup> International Symposium on Biogeochemistry of Wetlands- March 20-23, 2005. Baton Rouge, La.
- Co-Chair – Organizing and Program Committee – 11<sup>th</sup> International Symposium on Biogeochemistry of Wetlands- July 2009. Madison, WI.
- Florida Department of Environmental Protection Technical Advisory Committee regarding the development of numeric criteria for aquatic systems.
- U.S. Environmental Protection Agency Committee regarding the development of nutrient criteria for wetlands
- CSREES Review of Agronomy Department at Purdue University, April 8-12, 2002
- Chair of Organizing Committee and Program Committee - 7<sup>th</sup> International Conference on Wetland Systems for Water Pollution Control, held in Orlando, Florida. November 2000. Member of Program Committee - 9<sup>th</sup> International Conference on Wetland Systems for Water Pollution Control, held in France

#### **UNIVERSITY GOVERNANCE AND SERVICE [select examples]**

- Member of the ARL/ESTL Oversight Committee.
- Member of Nutrient Oversight Committee
- Served on a panel in a workshop on "Securing grants in support of academic programs" sponsored IFAS grants office
- Member of Task Force to develop a proposal to establish UF-Water Institute.
- Task Force co-chair for the Lake Okeechobee Protection Program. This program generated approximately \$4.5 million in contracts and grants to conduct research in the Okeechobee Basin.
- Chair – Search and Screen Committee - Director, School of Forest Resources and Conservation;
- Chair – Search and Screen Committee - Director, School of Natural Resources and Environment.
- Chair – Search and Screen Committee – Chair, Agronomy Department.
- Chair – Search and Screen Committee – Chair, Agricultural and Biological Engineering Department.

- Chair – Search and Screen Committee- Water Institute Director
- Member - Search and Screen Committee - Chair of the Environmental Engineering Sciences Department.
- Member - Search and Screen Committee -Director of IFAS Sponsored Programs
- Member – Committee to review Fisheries and Aquatic Sciences Department Programs
- Member of Advisory Committee: IFAS Office of Conferences and Institutes (OCI).
- Executive Board - IFAS Office of Conferences and Institutes (OCI).
- Member of Board of Directors-University of Florida Leadership and Education Foundation, Inc.
- Member - School of Natural Resources and Environment - Faculty Advisory Council
- Member – UF/IFAS Hurricane Recovery Report
- Member – Water Data Center Proposal
- Member – Water Institute Launch Team
- Member – Extension Symposium organizing committee
- Member – Search and Screen Committee - Northeast District Extension Director
- UF Academic Personal Board committee (2006-2008)
- Chair – UF-IFAS Department Consolidation Committee