

## Vimala Devi Nair

Soil and Water Sciences Department, PO Box 110290, 2181 McCarty Hall A  
University of Florida, Gainesville, Florida 32611-0290  
Phone: 352-294-3137; FAX 352-392-3399  
E-mail: vdn@ufl.edu

### Degrees:

Univ. of Göttingen, Germany	Chemistry/Soil Sci.	Dr.Sc. (PhD)	1978
Univ. of Kerala, India	Chemistry	M.Sc	1973
Univ. of Kerala, India	Chemistry	B.Sc	1971

### Professional Experience:

1. Research Professor: effective July 2010.  
Duties: Conduct research on fate and transport of phosphorus from agricultural lands, and water quality implications of animal-based agriculture. Also research on nutrient management and carbon sequestration in agroforestry systems.
3. Research Associate Professor: Soil and Water Science Department (SWSD), Univ. of Florida (UF). July 2005 – June 2010.
3. Research Assistant Professor: SWSD, UF. January 1997 – June 2005
4. Research Associate (0.5 FTE): SWSD, UF. September 1988- December 1995
5. Lecturer in Chemistry: University of Nairobi, Nairobi, Kenya. Dec. '85- Dec.'87
6. Lecturer in Chemistry: Kenyatta University, Nairobi, Kenya; July '81 – Nov. '85
7. Post-Doctoral Research Fellow in Soil Chemistry: Ecology Program, International Centre of Insect Physiology and Ecology, Nairobi, Kenya. Sep.'79 – Nov. '80
8. Research Assistant (part-time): Institute of Forest Ecosystems, Univ. of Göttingen, Germany. Nov. '76 - July '78.
9. Lecturer in Chemistry: Government Colleges under the Department of Collegiate Education of the State of Kerala, India. Aug. '78 - April '79; Dec. '74 - July '76

### Other professional activities:

1. Associate Editor, *J. Environ. Quality*. 1999-2004; Guest Associate Editor of Special Issue on Agroforestry and Environmental Quality, 2010 – 2011.
2. Reviewer of papers for *Adv. Environ. Res., Agric., Ecosyst. Environ, Agriculture Water Management, Applied Soil Ecology, Agroforest. Syst., Applied Geochemistry, CATENA, Chemical Engineering J, Ecol. Eng., Geoderma, J. Environ. Sci. (China), J. Environ. Quality, J. Plant Nutr. and Soil Sci., Scientia Agricola, Soil and Tillage Research, New Zealand J. Agri. Res., Soil Sci. Soc. Am. J., and Wetlands*. Book chapters: Phosphorus Management and Sustainability for *CAB Intl.* and for *New Vistas in Agroforestry: A Compendium for the 1<sup>st</sup> World Congress of Agroforestry*, Kluwer, Dordrecht, The Netherlands. Reviewer of manuscripts, *Silvopastoralism and Sustainable Management*, CAB International, UK.
3. Editor, Soil and Water Science Newsletter since it was first published in Fall 2000. The newsletter is published every semester.
4. Chair of Session 15 (Division S-11 Soils and Environmental Quality): P chemistry

- interactions with soils (1) at the annual meetings of the Agronomy Society at Indianapolis, IN in November 2002; and Nutrients and Soil Structure: I at Houston, TX in October 2008.
5. Member of Organizing Committee, 1<sup>st</sup> World Congress of Agroforestry June/July 2004, Orlando, Florida; Chair of the Environmental Amelioration session.
  6. Member of the Scientific Committee, Silvopastoralism and Sustainable Management International Congress April 2004, in Lugo, Spain.
  7. Session organizer: Agroforestry, Water Quality and Environmental Amelioration” at the 2<sup>nd</sup> World Congress August 2009, in Nairobi, Kenya.
  8. Associate Editor, for *Agroecology and Land Use Systems*, an open-access academic publisher and research network working in collaboration with the Nature Publishing Group, from 2013 (continuing) <http://loop.frontiersin.org/people/119860/overview>
    - *Frontiers in Ecology and Evolution*
    - *Frontiers in Environmental Science*
    - *Frontiers in Plant Science*

#### **Membership of professional societies:**

- American Society of Agronomy, 1993 to date
- Soil Science Society of America, 1993 to date
- Association of Agricultural Scientists of Indian Origin (ASSIO), continuing
- Florida Phosphorus-Index (P-Index) Committee, since 1991
- SERA-IEG 17 (Southern Regional Extension and Research Activity Information and Exchange Group), 1998 - continuing
- Member, Gamma Sigma Delta, 2003
- Soil and Crop Science Society of Florida, since 2006
- UF Association for Academic Women, 2007–2008
- Faculty Advisory Committee. SWSD, 2016
- Advisory Board of the Agroforestry Innovation Network (AFINET) European Project, Univ of Santiago de Compostela, Lugo Campus, Spain: 2017–2019
- SSSA Soil and Water Conservation Scholarship Committee, 2017– 2019

#### **Honors and awards:**

- Profiled in Soil Horizons, 2015, Soil Science Society of America – Day in the Life: Vimala Nair <https://dl.sciencesocieties.org/publications/sh/pdfs/56/4/sh2015-56-4-dl>
- Fellow of the Soil Science Society of America, 2014
- Outstanding Senior Scientist Award by the Association of Agricultural Scientists of Indian Origin (AASIO), 2014
- Elected as one of the five-member board of trustees (Executive Committee) of AASIO for a 3-year term from November 2013.
- Fellow of the American Society of Agronomy, 2013
- Courtesy faculty at the University of Santiago de Compostela, Spain (within the European Union Bologna Master Degree Program) beginning 2009-2010.
- 2005 Soil and Water Science Department Teacher/Advisor of the year award

- Outstanding Associate Editor for 2003, presented by ASA/CSSA/SSSA in recognition of “Exemplary service and sound technical skill in the peer review process for the Journal of Environmental Quality were of outstanding benefit to authors and of valued assistance to the Editorial Board.”
- Special bonus 2002-2003 from the SWSD, UF for excellent contributions and service to the discipline, department and UF-IFAS

Listed in:

- Cambridge Who’s Who Among Executives and Professionals: 2007-2008
- Marquis Who's Who in Science and Engineering: 2006-2007
- Biltmore Who's Who Among Executives and Professionals: 2006-2007
- Marquis Who’s Who in the World: 2006
- Marquis Who's Who of American Women: 2006
- Marquis Who's Who in America: 2005

### ***Student awards***

- Biswanath Dari:
  - 2016 Best Dissertation Award (SWSD)
  - 2014 Outstanding Graduate Student Award by the Association of Agricultural Scientists of Indian Origin (AASIO)
  - 2014 William K Robertson Award (SWSD)
  - 2014 One of the three selected by IFAS for the International Student Howard Hughes Medical Institute Fellowship
  - 2013 Environmental Quality Outstanding Graduate Student Award (ASA)
  - 2013-2014 Doris Lowe and Earl and Verna Lowe Scholarship (UF)
  - 2012–2013 Outstanding Achievement Award (UF International Center)
- Julia Showalter:
  - 2011 – 2012 Fulbright Fellowship
- Debolina Chakraborty:
  - 2010 Sam Polston Fellowship (SWSD)
  - 2008 William K Robertson (SWSD)
- Manohardeep S. Josan:
  - 2007 Best PhD Dissertation Award (SWSD)
  - 2005 Outstanding International Student (College of Agriculture and Life Sciences)
  - 2005 Student Representative of the SWSD
  - 2005 Outstanding Graduate Student Award by the Alpa Zeta Chapter of FL
  - 2005 Association of Agricultural Scientists of Indian Origin (AASIO) Outstanding Graduate Student Award
  - 2004 Victor W. Carlisle Fellowship (SWSD)
- Myrlene Chrysostome:
  - 2005 Sam Polston Fellowship (SWSD)

### ***Student awards – at Competitions***

National/International: ASA/SSSA/CSSA International Annual Meetings, Minority Student Poster Competition: Chakraborty, 3<sup>rd</sup> place, 2008; Saha, 3<sup>rd</sup> place, 2007; Haile, 1<sup>st</sup> place, 2006; Josan, honorable mention, 2006 and 2005; Michel, honorable mention, 2006.

*ASA/SSSA/CSSA International Annual Meetings Graduate Student Competition: Chatterjee, 2015 Biochar Community Poster Award, 3<sup>rd</sup> place; Dari, 2014 Biochar Community Best Poster Award; 2014 2<sup>nd</sup> place Pedology Award (oral); 2013 Environmental Quality Outstanding Graduate Student Award, ASA Environmental Quality Section; 2013, second place poster; Chakraborty, 3<sup>rd</sup> place, 2009.*

Regional: *Southern Branch ASA/SSSA/CSSA Meetings: Showalter, 1<sup>st</sup> place, 2010; Chrysostome, 3<sup>rd</sup> place, 2004.*

State: *Env. Sci Symposium organized by UF Air and Water Mgmt Assoc and Soc. Environ. Engineers, FL (Chakraborty, 2009, 3<sup>rd</sup> place); Soil and Crop Sci. Soc. of Florida's oral presentation competition (Josan, 2006, 2<sup>nd</sup> place)*

Department: *SWSD Graduate Research Forum (Oral presentation: Josan, 1<sup>st</sup> place, 2006; Best poster: Chakraborty, 2009 and 2010).*

### **Graduate Students and Post-doctoral Associates Supervised (2000-to date)**

Degree	Completed		Current	
	Chair/Co-Chair	Member	Chair/Co-Chair	Member
Doctorate	7	7	3	1
Master	5	5	0	0

Post-doctoral associates trained: B. Dari, S. Haile, M. Chrysostome, M. Josan, and S. Allen for a total of 72 person-months

### **Selected Contracts and Grants (from 2000 in reverse chronological order)**

- USDA-AFRI. Quantitative Approach for Recovering Legacy Phosphorus while Minimizing Crop Nutrient Deficiency Risk. \$485,000. (PI). 2016-2019.
- Florida Cattle Enhancement Board. Options for phosphorus fertilization and retention in bahiagrass pastures \$185K (co-PI). 2017-2018.
- FDACS. Online Training Modules on Soil Phosphorus Control Strategies in Florida. \$30,000 (PI). 2015-2016.
- Florida Cattlemen's Association. Biosolids options for phosphorus fertilization and its effect on P retention in pasture soils. \$54,000 (co-PI). 2015-2016.
- USDA-NRCS. Identify Methods to Refine Phosphorus Indices and Synthesize and Extend Lessons and Outcomes from Three Regional Indexing Efforts. 2012-2016. Regional PI.
- USDA-NRCS. Identify Methods to Refine Phosphorus Indices and Synthesize and Extend Lessons and Outcomes from Three Regional Indexing Efforts. 2012-2015. FL PI.
- Kissimmee River Sediment and Floodplain Soil Nutrient Assessment: Sample Collection, Data Analysis, and Reporting. SFWMD. 146K (co-PI). 2011-2012.
- Dissemination of Information Related to "Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water." FDACS. 35K (PI). 2010-2011.
- Evaluation of Cow-Calf Best management Practices. FDACS. \$140K (co-PI). 2009-2011.
- Wetland Soils Nutrient Criteria Development and Evaluation of "Safe" Soil Phosphorus Storage Capacity. FDACS. \$138K (PI). 2009-2010.

- Nutrient Budget Analysis for the Lake Okeechobee Watershed. HDR Engineering/ South Florida Water Management District (SFWMD). \$83K (co-PI). 2009-2010.
- Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. FDACS. \$491K (PI). 2006-2010.
- Site-specific Determination of Soil Capacity to Assimilate or Release P Applied as Manure, Fertilizer, Compost, or Biosolids. FDACS. \$190K (co-PI). 2006-2007.
- Soil amendments to increase phosphorus retention and reduce edge-of-field losses. Florida Department of Environmental Protection (FDEP). \$268K (co-PI). 2003-2006.
- Manure-derived components and their influence on long-term stability of P in soils. USDA-NRI. \$287K (co-PI). 2002-2005
- Manure P management for the Suwannee River Basin: a model for highly leachable soils. USDA-IFAFS. \$671K (co-PI). 2000-2004.
- Environmental impacts of agroforestry systems. USDA-IFAFS subproject. \$178K (PI). 2001-2004.
- Degree of Phosphorus Saturation (DPS) and Leaching Potential in Soils of the Middle Suwannee River Area under Varying P Application Rates. FDEP/FDACS. \$146K (co-PI). 2000-2002.

### Courses taught

SWS 6932 in Fall and Summer Semesters: Scientific Writing

### Online course on *Phosphorus in Florida Watersheds: Science and Applications*

<http://soils.ifas.ufl.edu/P-in-FL-watersheds.shtml>.

### PUBLICATION LIST

#### Google Scholar Citations

Citation indices	All	Since 2012
Citations	3139	1748
h-index	32	21
i10-index	52	42

\* Post-doctoral associate

\*\* Graduate student

\*\*\*Undergraduate student

#### Books, Co-authored:

Nair, P.K.R., and V.D. Nair. 2014. *Scientific Writing and Communication in Agriculture and Natural Resources*. Springer Cham Heidelberg New York Dordrecht London. ISBN 978-3-319-03100-2. DOI 10.1007/978-3-319-03101-9 (e-book is a 2013 publication; ISBN 978-3-319-03101-9)

**Books, Edited:**

Chang, S., V.D. Nair, J. Kort, and D. Khasa. 2011. Agroforestry Systems and Environmental Quality. Special Section. Journal of Environmental Quality.

**Books, Contributor of Chapters:**

1. Nair, V.D., and K.R. Reddy. 2013. Phosphorus sorption and desorption in wetland soils. pp 667 – 678. In: DeLaune, R., Reddy, K.R., Richardson, C.J., and Megonigal, P. (ed). Methods on biogeochemistry of wetlands. Soil Science Society of America Publication.
2. Nair, P.K.R. R.G. Tonucci, R. Garcia, and V.D. Nair. 2011. Silvopasture and carbon sequestration in the Brazilian savanna (cerrado). In: Kumar, B. M. and Nair, P. K. R. (ed), Carbon Sequestration in Agroforestry Systems. Springer, The Netherlands (2011). (in press).
3. Saha, S. \*\*, P.K.R. Nair, V.D. Nair, and G.M. Kumar. 2009. Soil carbon stock in relation to plant diversity of homegardens in Kerala, India. pp 53-65. *In* Jose, S. Agroforestry for Ecosystem Services and Environmental Benefits. Springer Science, The Netherlands. (Also published in Agroforestry Systems)
4. Takimoto, A.\*\*, V.D. Nair, and P.K.R. Nair. 2009. Contribution of trees to soil carbon sequestration under agroforestry systems in the West African Sahel. pp 11-25. *Agroforestry for Ecosystem Services and Environmental Benefits*. Springer Science, The Netherlands. (Also published in Agroforestry Systems).
5. Nair, V.D., and R.S. Kalmbacher. 2005. Silvopasture as an approach to reducing nutrient loading of surface water from farms. pp 272-274. *In*: Mosquera-Losada, M.R., J. McAdam, and A. Rigueiro-Rodríguez (eds), *Silvopastoralism and Sustainable Land Management*. CAB International, Wallingford, U.K.
6. Nair, P.K.R., M.E. Bannister, V.D. Nair, J.R.R. Alavalapati, E.A. Ellis, S. Jose, and A.J. Long. 2005. Silvopasture in southeastern United States: More than just a new name for an old practice. pp 72-82. *In*: Mosquera-Losada, M.R., J. McAdam., and A. Rigueiro-Rodríguez (eds), *Silvopastoralism and Sustainable Land Management*. CAB International, Wallingford, U.K.
7. Nair, V.D. and D.A. Graetz. 2004. Agroforestry as an approach to minimizing nutrient loss from heavily fertilized soils: The Florida experience. *In*: Nair, P.K.R., M.R. Rao, and L.E. Buck (eds), *New Vistas in Agroforestry: A Compendium for the 1<sup>st</sup> World Congress of Agroforestry*, Kluwer, Dordrecht, The Netherlands.
8. Nair, P.K.R., and V.D. Nair. 2003. Carbon storage in North American agroforestry systems. pp 333-346. *In*: Kimble, J.M, L. Heath, L.R. Birdsey, and L. Lal (eds), *The Potential of U.S. Forest Lands to Sequester Carbon and Mitigate the Greenhouse Effect*. Lewis Publishers, Boca Raton, Florida.

9. Graetz, D.A., and V.D. Nair. 2000. Phosphorus sorption isotherm determination. *In* Pierzynski, G.M (ed). Methods of Phosphorus Analyses for Soils, Sediments, Residuals, and Waters. Southern Cooperative Series Bulletin No.396. SERA-IEG 17 Regional Publication. [http://www.sera17.ext.vt.edu/Documents/Methods\\_of\\_P\\_Analysis\\_2000.pdf](http://www.sera17.ext.vt.edu/Documents/Methods_of_P_Analysis_2000.pdf)  
This publication was updated in 2006 and in 2009
10. Graetz, D.A., and V.D. Nair. 1999. Inorganic forms of phosphorus in water and soils. Chapter 6. pp 171-186. *In*: Reddy, K.R., G.A. O'Connor, and C. L.Schelske (eds.) Phosphorus Biogeochemistry of Sub-Tropical Ecosystems. C.R.C. Press, New York.
11. Graetz, D.A., K.R. Reddy, V.D. Nair, and O.G. Olila\*. 1997. Section 3 - Soils. *In*: Evaluation of Constructed Wetlands on Phosphate Mined Lands in Florida. Volume II. Institute of Phosphate Research, Bartow, FL 33830. Publication No. 03-103-139. pp 3.1-3.75.

### Monographs

1. Segal, D.S., V.D. Nair, D.A. Graetz, K.M. Portier, N.J. Bissett, and R.A. Garren. 2001. Post-mine reclamation of native upland communities. Florida Institute of Phosphate Research, Bartow, Florida. 03-122-159. 107 pp.
2. Nair, V. D. 1978. Aluminium species in soil solutions. Goettinger Bodenkundliche Berichte. 52. Boenecke-Druck 3392-Clausthal Z. 29, Germany. 123pp.

### Refereed Publications

#### *Refereed-Journals*

1. Banik, C\*\*, W.G. Harris, A. Ogram, and V.D. Nair. 2016. Carbon, iron and aluminum responses to controlled water table fluctuations in sandy soil material. *J Soils Sediments*.
2. Dari, B. V.D. Nair, W.G. Harris, P.K.R. Nair, L. Sollenberger, and R. Mylavarapu. 2016. Relative influence of soil- vs. biochar properties on soil phosphorus retention. *Geoderma*. 280: 82 – 87.
3. Ferreiro-Domínguez, N., V.D. Nair, and D. Freese. 2016. Phosphorous dynamics in poplar silvopastoral systems fertilised with sewage sludge. *Agric. Ecosyst. Environ*. 223:87-98. [dx.doi.org/10.1016/j.agee.2016.02.022](http://dx.doi.org/10.1016/j.agee.2016.02.022)
4. Dari, B.\*\*, V.D. Nair, J. Colee, W.G. Harris, and R. Mylavarapu. 2015. Estimation of phosphorus isotherm parameters: a simple and cost-effective procedure. *Front. Environ. Sci*. 3:70. doi: 10.3389/fenvs.2015.00070.
5. Dari, B\*\*, V.D. Nair, W.G. Harris, P.K.R. Nair, L. Sollenberger, and R. Mylavarapu. 2016. Relative influence of soil- vs. biochar properties on soil phosphorus retention. *Geoderma*. 280:82-87. <http://dx.doi.org/10.1016/j.geoderma.2016.06.018>

6. Nair, V.D., M.W. Clark, and K.R. Reddy. 2015. Evaluation of legacy phosphorus storage and release from wetland soils. *J. Environ. Qual.* 44: 1956 – 1964. doi:10.2134/jeq2015.03.0154.
7. Nair, V.D, and W.G. Harris. 2014. Soil Phosphorus Storage Capacity for Environmental Risk Assessment. *Advances in Agriculture.* doi:10.1155/2014/723064.
8. Nair, V.D. 2014. Soil phosphorus saturation ratio for risk assessment in land use systems. *Front. Environ. Sci.* 2:6. doi:10.3389/fenvs.2014.00006
9. Nair, P.K.R., and V.D. Nair. 2014. "Solid-Fluid-Gas": The State of Knowledge on Carbon Sequestration Potential of Agroforestry Systems in Africa. *Current Opinion in Environmental Sustainability* 6:22–27
10. Chakraborty, D.\*\*\*, V.D. Nair, W.G. Harris and R.D. Rhue. 2012. Environmentally-relevant phosphorus retention capacity of sandy coastal plain soils. *Soil Sci.* 177:701-707.
11. Carey, R.O.\* , G.J. Hochmuth, C.J. Martinez, T.H. Boyer, V.D. Nair, M.D. Dukes, G.S. Toor, A.L. Shober, J.L. Cisar, L E. Trenholm, and J.B. Sartain. 2012. A Review of Turfgrass Fertilizer Management Practices: Regulatory and resource management practices for urban watersheds: The Florida experience. *HortTech.* 22: 418 – 429.
12. Carey, R.O.\* , G.J. Hochmuth, C.J. Martinez, T.H. Boyer, V.D. Nair, M.D. Dukes, G.S. Toor, A.L. Shober, J.L. Cisar, L E. Trenholm, and J.B. Sartain. 2012. A Review of Turfgrass Fertilizer Management Practices: Implications for Urban Water Quality. *HortTech.* 22: 280 – 291.
13. Chakraborty, D.\* , V.D. Nair, and W.G. Harris. 2012. Compositional differences between Alaquods and Paleudults affecting phosphorus sorption-desorption behavior. *Soil Sci.* 177:188–196.
14. Lana, R.M.Q., V.D. Nair, A.M.Q. Lana, G.A.F. Prado, and A de A Silva. 2012. Productivity and nutritive value of brachiaria forage intercropping with eucalyptus in a silvopastoral system in the Brazilian cerrado biome. *Ciência Florestal.* Online: ISSN 1980-5098.
15. Chakraborty, D.\*\*\*, V.D. Nair, M. Chrysostome, and W.G. Harris. 2011. Soil phosphorus storage capacity in manure-impacted Alaquods: Implications for water table management. *Agric. Ecosyst. Environ.* doi: 10.1016/j.agee.2011.04.019
16. Howlett, D.S.\*\*\*, G. Moreno, M.R. Mosquera-Losada, P.K.R. Nair, and V.D. Nair. Soil carbon storage as influenced by tree cover in the Dehesa cork oak silvopasture of central-western Spain" *J. Environ. Monitor.* (in press).
17. Howlett, D.S.\*\*\*, M. R. Mosquera-Losada, P.K. R. Nair, V.D. Nair, and A. Rigueiro-Rodríguez. 2011. Soil carbon storage in silvopastoral systems and a treeless pasture in northwestern Spain. *J. Environ. Qual.* doi:10.2134/jeq2010.0145
18. Tonucci, R.G.\*\*\*, P.K. R. Nair, V.D. Nair, R. Garcia, and F.S. Bernardino. 2011. Soil carbon storage in silvopasture and related land-use systems in the Brazilian Cerrado. *J. Environ. Qual.* (in press). doi:10.2134/jeq2010.0162
19. Gama-Rodrigues, E.F., P. K. R. Nair, V. D. Nair, A.C. Gama-Rodrigues, Virupax C. Baligar, and Regina C. R. Machado. 2010. Carbon storage in soil size fractions under two



- cacao agroforestry systems in Bahia, Brazil. *Environ. Manage.* 45: 274-283; doi: 10.1007/s00267-009-9420-7
20. Haile, S.G.\*, V.D. Nair, and P.K.R. Nair. 2010. Contribution of trees to carbon storage in soils of silvopastoral systems in Florida, USA. *Glob. Change Biol.* 16:427-438; doi: 10.1111/j.1365-2486.2009.01981.x.
21. Harris, W.G., M. Chrysostome\*, T.A. Obreza, and V.D. Nair. 2010. Soil properties pertinent to horticulture in Florida. *HortTech.* 20:10-18.
22. Herrera, D.\*\*\*, W.G. Harris, V.D. Nair, M. Josan.\*\* and C.R. Staples. 2010. Effect of dietary modifications of calcium and magnesium on reducing solubility of phosphorus in feces from lactating dairy cows. *J. Dairy Science.* 328:2598-2611; doi:10.3168/jds.2009-2766.
23. Nair, P.K. R., V.D. Nair, B.M. Kumar, and J. Showalter\*\*. 2010. Carbon sequestration in agroforestry systems. *Adv. Agron.* 108:237-307.
24. Nair, P.K.R., S.K. Saha\*, V.D. Nair, and S.G. Haile\*. 2010. Potential for greenhouse gas emissions from soil carbon stock following biofuel cultivation on degraded lands. *Land Degradation and Development* doi: 10.1002/ldr.1016.
25. Saha, S.,\*\* P.K.R. Nair, V.D. Nair, and G.M. Kumar. 2010. Carbon storage in relation to soil size-fractions under some tropical tree-based land-use systems. *Plant Soil.* 328:433-446. doi: 0.1007/s11104-009-0123-x
26. Mukherjee, A.\*\*\*, V.D. Nair, M.W. Clark, and K.R. Reddy. 2009. Development of indices to predict phosphorus release from wetland soils. *J. Environ. Qual.* 38:878-886.
27. Nair, P.K.R., V.D. Nair, B.M. Kumar, and S.G. Haile\*. 2009. Soil carbon sequestration in tropical agroforestry systems: A Feasibility Appraisal. *Environmental Science and Policy.* 12:1099-1111; doi:10.1016/j.envsci.2009.01.010
28. Nair, P.K.R., B.M. Kumar, and V.D. Nair. 2009. Agroforestry as a strategy for carbon sequestration. *J. Plant Nutr. Soil Sci.* 172:10-23.
29. Saha, S. \*\*, P.K.R. Nair, V.D. Nair, and G.M. Kumar. 2009. Soil carbon stock in relation to plant diversity of homegardens in Kerala, India. *Agroforest. Syst.* 76:53-65.
30. Takimoto, A.\*\*\*, V.D. Nair, and P.K.R. Nair. 2009. Contribution of trees to soil carbon sequestration under agroforestry systems in the West African Sahel. *Agroforest. Syst.* 76:11-25.
31. Haile, S.G\*\*, P.K.R. Nair, and V.D. Nair. 2008. Soil carbon storage in different size fractions in silvopastoral systems of Florida. *J. Environ. Qual.* 37:1789-1797.
32. Takimoto, A.\*\*\*, P.K.R. Nair, and V.D. Nair. 2008. Carbon stock and sequestration potential of traditional and improved agroforestry systems in the West African Sahel. *Agric., Ecosyst. Environ.* 125:159-166.

33. Cao, X., W.G. Harris, M.S. Josan\*\*, and V.D. Nair. 2007. Inhibition of calcium phosphate precipitation under over-saturated conditions. *Sci. Total Environ.* 383: 205-215.
34. Chrysostome, M. \*\*, V.D. Nair, W.G. Harris, and R.D. Rhue. 2007. Laboratory Validation of Soil Phosphorus Storage Capacity Predictions for Use in Risk Assessment. *Soil Sci. Soc. Am. J.* 71:1564-1569.
35. Chrysostome, M.\*\*, V.D. Nair, W.G. Harris, and R.D. Rhue. 2007. Minimizing confounding factors in phosphorus leaching assessment for dairy and poultry manure-amended soils. *Comm. Soil Sci. Plant Anal.* 38:975-987.
36. Michel, G.A. \*\*, V.D. Nair, and P.K.R. Nair. 2007. Silvopasture for reducing phosphorus loss from subtropical sandy soils. *Plant Soil.* 297:267-276.
37. Nair, V.D., P.K.R. Nair, R.S. Kalmbacher, and I.V. Ezenwa. 2007. Reducing nutrient loss from farms through silvopastoral practices in coarse-textured soils of Florida, USA. *Ecological Engineering* 29:192-199.
38. Nair, V. D., S. Haile\*\*, G.A. Michel\*\*, and P.K.R. Nair. 2007. Environmental quality improvement of agricultural lands through silvopasture in southeastern United States. *Sci. Agric.* 64:513-519.
39. Oladeji, O.O. \*\*, G.A. O'Connor, J.B. Sartain, and V.D. Nair. 2007. Controlled Application Rate of Water Treatment Residual for Agronomic and Environmental Benefits. *J Environ. Qual.* 36:1715-1724.
40. Woodard, K.R.\*, L.E. Sollenberger, L.A. Sweat, D.A. Graetz, V.D. Nair, and S.J. Rymph. 2007. Five year-round forage systems in a dairy effluent sprayfield: Soil phosphorus and other nutrients. *J. Environ. Qual.* 36:1042-1049.
41. Allen, S.\*, V.D. Nair, D.A. Graetz, S. Jose, and P.K.R. Nair. 2006. Phosphorus loss from organic versus inorganic fertilizers used in alleycropping on a Florida Ultisol. *Agric., Ecosyst. Environ.* 117:290-298.
42. Rhue, R.D., W.G. Harris, and V.D. Nair. 2006. A retardation-based model for phosphorus transport in sandy soil. *Soil Sci.* 171:293-304.
43. Allen, S.\*, S. Jose, P.K.R. Nair, B.J. Brecke, V.D. Nair, D.A. Graetz, and C.L. Ramsey. 2005. Nitrogen mineralization under a pecan (*Carya illinoensis* K. Koch)-cotton (*Gossypium hirsutum* L.) alley cropping system in the southern United States. *Biology and Fertility of Soils* 41(1):28-37
44. Josan, M.S\*\*, V.D. Nair, W.G. Harris, and D. Herrera\*\*. 2005. Associated release of magnesium and phosphorus from active and abandoned dairy soils. *J. Environ. Qual.* 34: 1-6.

45. Rhue, R.D., V.D. Nair, and W.G. Harris. 2005. A quick field test for evaluating phosphorus movement in sandy soils. *New Zealand J. Agric. Res.* 48:367-375.
46. Nair, V.D., and D.A. Graetz. 2004. Agroforestry as an approach to minimizing nutrient loss from heavily fertilized soils: The Florida experience. *Agroforest. Syst.* 61-62: 269-279.
47. Nair, V.D., and W.G. Harris. 2004. A capacity factor as an alternative to soil test phosphorus in phosphorus risk assessment. *New Zealand J. Agric. Res.* 47:491-497. (Special Issue on Land Application of Farm Wastes).
48. Nair, V.D., K.M. Portier, D.A. Graetz, and M.L. Walker\*\*\*. 2004. An environmental threshold for degree of phosphorus saturation in sandy soils. *J. Environ. Qual.* 33: 107-113.
49. Nair, V.D., D.A. Graetz, and D.O. Dooley\*\*\*. 2003. Phosphorus release characteristics of manure and manure-impacted soils. *J. Food, Agriculture and Environment* 1:217-223.
50. Nair, V.D., and D.A. Graetz. 2002. Phosphorus saturation in Spodosols impacted by manure. *J. Environ. Qual.* 31:1279-1285.
51. Pant, H.K. \*, V.D. Nair, K.R. Reddy, D.A. Graetz, and R.R. Villapando. 2002. Influence of flooding on phosphorus solubility in manure-impacted soils. *J. Environ. Qual.* 31: 1399-1405.
52. Nair, V.D., D.A. Graetz, K.R. Reddy, and O.G. Olila\*. 2001. Soil development in phosphate-mined created wetlands of Florida, USA. *Wetlands* 21(2):232-239.
53. Graetz, D.A., V.D. Nair, R.L. Voss, and K.M. Portier. 1999. Phosphorus accumulation on land utilized by dairies and beef ranches. *Agric., Ecosyst. Environ.* 75:31-40.
54. Nair, V.D., R.R. Villapando\*\*, and D.A. Graetz. 1999. Phosphorus retention capacity of the spodic horizon under varying environmental conditions. *J. Environ. Qual.* 28: 1308-1313.
55. Nair, V.D., D.A. Graetz, and K.R. Reddy. 1998. Dairy manure influences on phosphorus retention capacity of Spodosols. *J. Environ. Qual.* 27:522-527.
56. Graetz, D.A., and V.D. Nair. 1995. Fate of phosphorus in Florida Spodosols contaminated with cattle manure. *Ecol. Eng.* 5:163-181.
57. Nair, V.D., D.A. Graetz, and K.M. Portier. 1995. Forms of phosphorus in soil profiles from dairies of South Florida. *Soil Sci. Soc. Am. J.* 59:1244-1249.

58. Mathews, B.W. \*\*, L.E. Sollenberger, V.D. Nair, and C.R. Staples. 1994. Impact of grazing management on soil N, P, K, and S distribution and water quality. *J. Environ. Qual.* 23:1006-1013.

***Refereed Proceedings:***

- Nair, V.D. N.J., Bissett, K.M. Portier, D.A. Graetz, and D.S. Segal. 2000. Soil Conditions and Plant Establishment on Reclaimed Phosphate-Mined Lands. pp 35-48. *In* W.L. Daniels and S.G. Richardson (eds), Proceedings, 2000 Annual Meeting of the American Society for Surface Mining and Reclamation, Tampa, FL, June 11-15, 2000. Amer. Soc. Surf. Mining Rec., 3134 Montavesta Rd., Lexington, KY.
- Bissett, N.J., R.A. Garren, V.D. Nair, K.M. Portier, D.A. Graetz, and D.S. Segal. 2000. Testing the Efficacy of Seed and Plant Transfer by Topsoil Augmentation on Reclaimed Phosphate-Mined Lands. pp 13-34. *In* W.L. Daniels and S.G. Richardson (eds), Proceedings, 2000 Annual Meeting of the American Society for Surface Mining and Reclamation Tampa, Florida, June 11-15, 2000. Amer. Soc. Surf. Mining Rec., 3134 Montavesta Rd., Lexington, KY.

**Non-refereed Publications**

***Reports and Deliverables to Funding Agencies***

1. V.D. Nair. 2016. Quantitative approach for recovering legacy phosphorus while minimizing crop nutrient deficiency risk. 2016 AFRI/NIWQP Annual Project Directors Meeting. Washington D.C. 20024. October 12-13, 2016
2. Nair, V.D. and B Dari\*\*. 2015. Understanding SUPER PHOS<sup>TM</sup> and Phosphoric Acid Transport in Soils. Report to Bio Huma Netics, Inc. 1331 W Houston Ave, Gilbert, AZ 85233 USA. 16 pp.
3. Nair, V.D. 2014. The SUPER PHOS<sup>TM</sup> Column Study. 2014. Report to Bio Huma Netics, Inc. 1331 W Houston Ave, Gilbert, AZ 85233 USA. 18 pp.
4. Osborne, T.Z., V.D. Nair, L.R. Ellis, D. Chakraborty\*\*, W.G Harris, and K.R. Reddy. 2012. Kissimmee River Sediment and Floodplain Soil Nutrient Assessment. Final Report to the South Florida Water Management District, West Palm Beach, FL.
5. Sartain, J.B., and V.D. Nair. 2012. Characterization of the Soil P Storage Capacity of Soil from Jake Gaither and Hilaman Golf Courses in the City of Tallahassee. City of Tallahassee, FL.
6. Nair, V.D., M.W. Clark, and K.R. Reddy. 2011. Wetland Soils Nutrient Index Development and Evaluation of "Safe" Soil Phosphorus Storage Capacity. Final Report to FDACS. Contract Number 00073946 (Agency Number 014820). Tallahassee, FL.
7. Nair, V.D., W.G. Harris, and R.D. Rhue. 2010. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Year 4

- Report to FDACS. Contract Number 00074229 (Agency Number 014885). Tallahassee, FL.
8. Nair, V.D., M.W. Clark, K.R. Reddy, and S.G. Haile\*. 2010. Wetland Soils Nutrient Criteria Development and Evaluation of “Safe” Soil Phosphorus Storage Capacity. Task 1 Report to FDACS. Contract Number 00073946 (Agency Number 014820). Tallahassee, FL.
  9. Nair, V.D, D. Chakraborty\*\*, H.G. Haile\*, Y. Liu and Z. He. 2009. Nutrient Budget Study of the Lake Okeechobee Watershed: Deliverable 2 *Phosphorus and Nitrogen in Soils*. Contract Number 00072726. HDR Engineering Inc. West Palm Beach, FL. pp 50.
  10. Nair, V.D., W.G. Harris, and R.D. Rhue. 2009. Deliverable 1 *Soil sampling, preparation and Analyses*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 014885. Tallahassee, FL. pp 4 excluding a spreadsheet with data.
  11. Nair, V.D, H.G. Haile\*, Z. He, and Y. Liu. 2009. Nutrient Budget Study of the Lake Okeechobee Watershed: *Literature Review*. Contract number 00072726. HDR Engineering Inc. West Palm Beach, FL.
  12. Nair, V.D., W.G. Harris, and R.D. Rhue. 2009. Deliverable 3 *Determine the change point for the Bh horizon*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 00069876. Tallahassee, FL
  13. Nair, V.D., W.G. Harris, and R.D. Rhue. 2009. Deliverable 4 *Determine soil P storage Capacity (SPSC) using Mehlich 1 and oxalate parameters*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 00069876. Tallahassee, FL
  14. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2008. Deliverable 1 *Soil Sampling*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 0069876. Tallahassee, FL
  15. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2008. Deliverable 2. *Spreadsheet with data after a 10-month P-incubation study*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 0069876. Tallahassee, FL
  16. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 1 *Change point for the Bh horizon from analyses of archived soils*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 0061882. Tallahassee, FL.
  17. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 2 *P storage capacity and release predictions for Bh horizons*. Protocol Development to Evaluate the

- Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract Number 0061882. Tallahassee, FL.
18. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 3 *Range of Bh capacities of prevalent Spodosols series in Florida*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract number 0061882. Tallahassee, FL.
  19. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 4 *Validation of P storage capacity, comparing predicted and observed water soluble P values for selected archived Okeechobee soil profiles with varying depths to the Bh horizon over a range of P levels*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract number 0061882. Tallahassee, FL.
  20. Nair, V.D., W.G. Harris, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 5 *Report on site selection*. Protocol Development to Evaluate the Effect of Water Table Management on Phosphorus Release to Drainage Water. Report to FDACS. Contract number 0061882. Tallahassee, FL.
  21. Harris, W.G., V.D. Nair, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 1. *Progress report for laboratory-scale rainfall simulation*. Site-specific determination of soil capacity to assimilate or release P applied as manure, fertilizer, compost, or biosolids. Report to FDACS. Contract number 0061873. Tallahassee, FL.
  22. Harris, W.G., V.D. Nair, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 2. *Progress report on source materials characterization and implications for effects*. Site-specific determination of soil capacity to assimilate or release P applied as manure, fertilizer, compost, or biosolids. Report to FDACS. Contract number 0061873. Tallahassee, FL.
  23. Harris, W.G., V.D. Nair, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 3. *Report on selection of study site locations*. Site-specific determination of soil capacity to assimilate or release P applied as manure, fertilizer, compost, or biosolids. Report to FDACS. Contract number 0061873. Tallahassee, FL.
  24. Harris, W.G., V.D. Nair, R.D. Rhue, and D.A. Graetz. 2007. Deliverable 4. *Progress report for field rainfall simulations*. Site-specific determination of soil capacity to assimilate or release P applied as manure, fertilizer, compost, or biosolids. Report to FDACS. Contract number 0061873. Tallahassee, FL.
  25. Reddy, K.R., S. Grunwald, V.D. Nair, and Y. Wang, 2006. Baseline Characterization of the Taylor Creek Pilot Storm Treatment Areas (STA) in the Lake Okeechobee Watershed, West Palm Beach, Florida: South Florida Water Management.
  26. Reddy, K.R., D.A. Graetz, H.K. Pant\*, and V.D. Nair. 2000. Phosphorus retention, and release properties of soils from Newcomer and New Palm dairies, Okeechobee, FL. Final Report. South Florida Water Management District, West Palm Beach, Florida. 90p.

27. Nair, V.D., and D.A. Graetz. 1996. Water Quality Impact of Grazed Rangelands and Pastures: Literature Review. Final Report, SFWMD Contract No. C-5298. 68p.
28. Graetz, D.A., and V.D. Nair. 1996. BMPs for Beef Cow/Calf Operations. Brochure. South Florida Water Management District, West Palm Beach, Florida. 10p.
29. Graetz, D.A., K.R. Reddy, V.D. Nair, and O.G. Olila\*. 1995. Section 3: Soils. *In: An Evaluation of Constructed Wetlands on Phosphate-Mined Lands in Florida*. Ervin, K.L. (ed), Florida Institute of Phosphate Research, Bartow, FL 33830. 80p.
30. Graetz, D.A., and V.D. Nair. 1993. Contaminated Soil Assessment and LOADSS Improvement. Final Report, SFWMD Project C91-2637. South Florida Water Management District, West Palm Beach, Florida. 114p.
31. Graetz, D.A., V.D. Nair, and K.R. Reddy. 1991. Biogeochemical Behavior and Transport of Phosphorus in the Lake Okeechobee Basin. South Florida Water Management District, West Palm Beach, Florida. 312p.

***Non-refereed Proceedings***

1. Nair, V.D., D.A. Graetz, and M.L. Walker\*\*\*. 2002. Degree of Phosphorus Saturation (DPS): An Indicator for Predicting Water Quality Degradation. Paper 222. p 222-1 to 222-9. Transactions. World Congress of Soil Science. Bangkok, Thailand. August 14-21, 2002. CD Rom publication.
2. Nair, P.K.R., and V.D. Nair. 2002. Carbon Sequestration in Agroforestry Systems. Paper 989. p 989-1 to 989-13. Transactions. World Congress of Soil Science. Bangkok, Thailand. August 14-21, 2002. CD Rom publication.

***Research Briefs***

1. Haile, S.G.\*, V.D. Nair, and P.K.R. Nair. 2009. Carbon Storage in Soils under Tree-based Land-use Systems. Soil and Water Science Department, University of Florida. Research Brief <http://soils.ifas.ufl.edu/department/briefs/sws09-01.pdf>
2. Haile S.G.\*, V.D. Nair, and P.K.R. Nair. 2009. Shifts in Stable Carbon Isotopic Signatures in Soil Fractions following Tree Integration into Pastures. Soil and Water Science Department, University of Florida. Research Brief <http://soils.ifas.ufl.edu/department/briefs/sws09-02.pdf>
3. Nair, V.D., W.G. Harris, and D.A. Graetz. 2007. Introducing the phosphorus release risk factor in the Florida P-Index. Soil and Water Science Department, University of Florida. Research Brief. SWS 07-02 <http://soils.ifas.ufl.edu/department/briefs/sws07-02.pdf>
4. M. Chrysostome, V.D. Nair, W.G. Harris, and R.D. Rhue. 2007. Laboratory Validation of Soil Phosphorus Storage Capacity Predictions. Soil and Water Science Department,

University of Florida. Research Brief. SWS 07-01  
<http://soils.ifas.ufl.edu/department/briefs/sws07-01.pdf>

5. Nair, V.D., S.C. Allen\*, R.S. Kalmbacher, and D.A. Graetz. 2004. Potential of silvopastoral practices to reduce nutrient loss from Florida soils. Soil and Water Science Department, University of Florida. Research Brief. SWS 04-05  
<http://soils.ifas.ufl.edu/department/briefs/sws04-05.pdf>
6. Nair, V.D., W.G. Harris, and D.A. Graetz. 2004. Predicting the safe phosphorus storage capacity of sandy soils. Soil and Water Science Department, University of Florida. Research Brief. SWS 04-03 <http://soils.ifas.ufl.edu/department/briefs/sws04-03.pdf>
7. Rhue, R.D., V.D. Nair, and W.G. Harris. 2003. The role of amorphous iron and aluminum in phosphorus retention in sandy soils of the Suwannee River Basin. Soil and Water Science Department, University of Florida. Research Brief. SWS 03-04  
<http://soils.ifas.ufl.edu/department/briefs/sws03-04.pdf>
8. Rhue, R.D., V.D. Nair, and W.G. Harris. 2003. P quick test. Soil and Water Science Department, University of Florida. Research Brief. SWS 03-03  
<http://soils.ifas.ufl.edu/department/briefs/sws03-03.pdf>
9. Rhue, R.D., W.G. Harris, and V.D. Nair, 2003. A model for longterm P leaching in sandy soil. Soil and Water Science Department, University of Florida. Research Brief. SWS 03-02 <http://soils.ifas.ufl.edu/department/briefs/sws03-02.pdf>
10. Nair, V.D., and D.A. Graetz. 2002. Threshold degree of phosphorus saturation (DPS) for Florida's sandy soils. Soil and Water Science Department, University of Florida. Research Brief. SWS 02-03 <http://soils.ifas.ufl.edu/department/briefs/sws02-03.pdf>
11. Nair, V.D., and D.A. Graetz. 2001. Degree of phosphorus saturation (DPS) in Lake Okeechobee basin soils. Soil and Water Science Department, University of Florida. Research Brief. SWS 01-04 <http://soils.ifas.ufl.edu/department/briefs/sws01-04.pdf>
12. Nair, V.D. N.J. Bissett, K.M. Portier, D.A. Graetz, and D.S. Segal. 2001. Soil conditions and plant establishment on reclaimed phosphate-mined uplands. Soil and Water Science Department, University of Florida. Research Brief. SWS 01-03  
<http://soils.ifas.ufl.edu/department/briefs/sws01-03.pdf>

### ***EDIS Publications***

1. Dari, B., V.D. Nair, and W.G. Harris. 2017. Parameters for Site-specific Soil Phosphorus Loss Modeling from Soil Test Data. SL442.
2. Mylavarapu, R, T. Obreza, K. Morgan, G. Hochmuth, V. Nair, and A. Wright. 2014. Extraction of Soil Nutrients Using Mehlich-3 Reagent for Acid-Mineral Soils of Florida. SL407. <http://edis.ifas.ufl.edu/pdf/files/SS/SS62000.pdf>



3. Mylavarapu, R., V.D. Nair, and K. Morgan. 2013. An Introduction to Biochar and their uses in Agriculture. SL 383. <http://edis.ifas.ufl.edu/pdffiles/SS/SS58500.pdf>
4. Nair, V.D., M. Chrysostome\*, and W.G. Harris. 2011. Long-term Contribution of Phosphorus from Agricultural Lands to Lake Okeechobee. SL 357. <http://edis.ifas.ufl.edu/pdffiles/SS/SS55800.pdf>
5. Nair, V.D., and W. G. Harris. 2011. Phosphorus Sources and Risk Potential: Organic and Inorganic Fertilizers. <http://edis.ifas.ufl.edu/pdffiles/SS/SS55900.pdf>
6. Chakraborty D.\*\*\*, V.D. Nair, W.G. Harris, and R.D. Rhue. 2011. Potential for Phosphorus Removal by Plants from the Spodic Horizon. SL 359. <http://edis.ifas.ufl.edu/pdffiles/SS/SS56000.pdf>
7. Nair, V.D., W.G. Harris, and D. Chakraborty\*\*\*. 2010. An Indicator for Risk of Phosphorus Loss from Sandy Soils. SL 333. <http://edis.ifas.ufl.edu/pdffiles/SS/SS53900.pdf>
8. Nair, V.D. W.G. Harris, D. Chakraborty\*\*\*, and M. Chrysostome. 2010. Understanding Soil Phosphorus Storage Capacity. SL 336. <http://edis.ifas.ufl.edu/pdffiles/SS/SS54100.pdf>
9. Haile, S.G.\*, C.W. Fraise, V.D. Nair, and P.K.R. Nair. Greenhouse Gas Mitigation in Forest and Agricultural Lands: Carbon Sequestration [http://edis.ifas.ufl.edu/document\\_ae435](http://edis.ifas.ufl.edu/document_ae435)
10. Haile, S.G.\*, C.W. Fraise, P.K.R. Nair, and V.D. Nair. Greenhouse Gas Mitigation in Forest and Agricultural Lands: Reducing Emissions [http://edis.ifas.ufl.edu/document\\_ae443](http://edis.ifas.ufl.edu/document_ae443)

***IAEA Newsletter Article***

Reddy, K.R., M.W. Clark, and V.D. Nair. 2012. Legacy Phosphorus in Agricultural Watersheds: Implications for Restoration and Management of Wetlands and Aquatic Systems. IAEA Newsletter.

***SCOPE Newsletter***

Nair, V.D., and Harris, W.G. 2014. Practical Site-Specific Measurements for Phosphorus Risk Assessment. P 72. In: SCOPE Newsletter visions for sustainable phosphorus tomorrow contributions. The European Sustainable Phosphorus Platform. August 2014.

***Soil and Water Science Department's Newsletter – “Myakka.”***

I have been the editor of “Myakka” for the past nine years (Section 26). In addition, I have written the following articles for the newsletter; all are available at:

<http://soils.ifas.ufl.edu/departments/publications.html>.

1. Land application of biochar and phosphorus retention: “An Inconvenient Truth”. Volume 16 Number 1 (Spring 2016)
2. A tool for phosphorus risk assessment of wetland soils. Volume 11 Number 1(Spring 2011)
3. A new approach to predicting safe phosphorus loading in soils. Volume 9 Number 1 (Spring 2009).
4. Carbon sequestration of agroforestry systems. Volume 7 Number 2 2007 (Summer 2007).
5. Manure phosphorus management for the Suwannee River Basin: A model for highly leachable soils. Volume 4 Number 2 2004 (Summer 2004).
6. Environmental research in agroforestry. Volume 3 Number 1 2003 (Spring 2003).
7. UF/IFAS role in the development of the Phosphorus Index. Volume 2 Number 1 2002 (Spring 2002).
8. A soil phosphorus saturation index for phosphorus management in Florida. Volume 2 Number 1 2002 (Spring 2002).
9. The Phosphorus Index: UF/IFAS role in its development. Volume 1 Number 1 2001 (Fall 2000).

#### **LECTURES, SPEECHES OR POSTERS PRESENTED AT PROFESSIONAL CONFERENCES/MEETINGS**

All presentations are by the first author unless indicated otherwise.

§ Presenter

\* Post-doctoral associate

\*\* Graduate student

\*\*\* Undergraduate student

#### ***Presentations at International Meetings – Invited***

1. Nair, V.D., B. Dari, and P.K.R. Nair. 2016. Biochar as a soil amendment: Potential role of coconut byproducts. 3<sup>rd</sup> International Symposium on Coconut Research and Development. ICAR – Central Plantation Crops Research Institute Kasaragod, Kerala, India 10-12, December 2016.
2. Nair, V.D. 2016. Sustainable Land Application of Biochar in Agroforestry. 3<sup>rd</sup> European Agroforestry Conference 23-25 May 2016, Montpellier, France.
3. Nair, V.D. 2015. Biochar Uses in Agroforestry Systems. The 2<sup>nd</sup> General Assembly of AGFORWARD, Chania, Greece. June 25, 2015.
4. Ferreiro-Domínguez, N., Vimala Nair, Antonio Rigueiro-Rodríguez, María Rosa Mosquera-Losada. 2015. Soil and pasture P concentration in a *Fraxinus excelsior* L. silvopastoral system fertilised with different types of sewage sludge. European Geosciences Union General Assembly Conference Abstracts. Soil System Science April 2015. Vienna, Austria. Volume 17; P 14889
5. Rafael Goncalves Tonucci, Rasmô Garcia, and Vimala Nair. 2015. Trees and grass contribution to soil organic carbon in agroforestry systems. World congress on integrated crop-livestock-forest systems; International symposium on integrated crop-livestock systems. Brasília, df. Towards sustainable intensification: proceedings. Brasília.
6. Nair, P.K.R., and V.D. Nair. 2014. Scientific Writing and Communication in Agriculture and Natural Resources Short Course. Kyoto University, Japan. July 28 – Aug 7, 2014.

7. Nair, V.D. 2014. Phosphorus in Agricultural Lands: Problems and Sustainable Solutions. Kyoto University, Japan. Aug 06, 2014.
8. Nair, P.K.R., V.D. Nair, S.K. Saha\*, S.G. Haile\*, D.S. Howlett\*\*, A.N.G. Takimoto, E.F. Gama-Rodrigues, and R.G. Tonucci. 2009. Climate Change Mitigation through Agroforestry: A Concept in Search of Science. 2<sup>nd</sup> World Congress of Agroforestry, Nairobi, Kenya. 23-28 August 2009.
9. Nair, V.D. and P.K.R. Nair. 2009. Carbon storage in aggregate-size fractions under agroforestry systems. 2<sup>nd</sup> World Congress of Agroforestry, Nairobi, Kenya. 23-28 August 2009.
10. Nair, V.D. 2008. Scientific Writing in Agriculture and Natural Resource Management. Kerala Agricultural University-University of Florida Training Workshop. Kerala Agricultural University, Thrissur, Kerala, India. 20-25, October 2008.
11. Nair, V.D. 2008. Environmental Benefits of Agroforestry in Subtropical and Temperate Regions. European Community Action Scheme for the Mobility of University Students Program, Santiago de Compostella, Spain, March 31 to April 06, 2008.
12. Nair, P. K. and V.D. Nair. 2007. Agroforestry and Carbon Sequestration. Hangzhou (China) Workshop, May 2007.
13. Nair P.K. and V.D. Nair. 2007. Soil Sustainability and Agroforestry Systems. Ecological Research Center, CAS. Beijing, China, May 2007.
14. Nair, V.D. 2005. Research Writing, University of Santiago de Compostella, Lugo, Spain.
15. Nair, V.D. 2005. Phosphorus in Agricultural Land: Cattle, Soils, and Water Quality. University of Santiago de Compostella, Lugo, Spain.
16. Nair, V.D. 2005. Phosphorus storage capacity of soils under silvopasture and tree-less pasture in Florida. IUFRO World Congress, Brisbane, Australia.
17. P.K. Nair, and V.D. Nair. 2006. Agroforestry as a land-management option in the 21st Century: A Global Overview: Aracruz Cellulose S. A, 10/01/2006, Vitória, ES, Brazil. (Seminar).
18. Nair, P.K.R. M.E. Bannister, V.D. Nair, J.R.R. Alavalapati, E.A. Ellis, S. Jose, and A.J. Long. 2004. International Congress on Silvopastoralism and Sustainable Management, April 18-24, 2004. Lugo, Galicia, Spain. (*Abstract and full paper on Silvopasture in southeastern United States: More than just a new name for an old practice*)
19. Nair, V.D. 2004. Silvopasture and Water Quality. Pre-Congress Workshop. 1<sup>st</sup> World Congress of Agroforestry. June 27-July 2, 2004. Orlando, FL.

20. Nair, V.D., and R.S. Kalmbacher. 2004. International Congress on Silvopastoralism and Sustainable Management. April 18-24, 2004, Lugo, Galicia, Spain. (*Abstract and full paper on Silvopasture as an approach to reducing nutrient loading of surface water from farms*)

***Presentations at International Meetings – Volunteered***

1. Nair, V.D., P.K.R. Nair, R. Mosquera-Losada, G-A Michel, D. Howlett, and P. Nkedi-Kizza. 2014. Innovative Technology for Water Quality Protection in Agroforestry Systems. 3<sup>rd</sup> World Congress on Agroforestry, February 10-14, 2014; Delhi, India.
2. Lana, R.M.Q., A.M.Q. Lana, A De A Silva, G. A. F. Prado, and V.D.Nair. 2013. Productivity of brachiaria forage intercropping with eucalyptus in a silvopastoral system in the brazilian cerrado biome. FITA2013 "Sustainable Agriculture through ICT innovation", June 23-27, 2013, Italy.
3. Lana, A.Q.M., R.M.Q. Lana, G. A. F. Prado, A De A Silva, and V.D. Nair. 2013. Nutritive value of brachiaria forage intercropping with eucalyptus in a silvopastoral system in the brazilian cerrado biome. EFITA2013 "Sustainable Agriculture through ICT innovation", June 23-27, 2013, Italy.
4. Chakraborty, D., V.D. Nair, T.Z. Osborne†, and L.R. Ellis. 2012. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
5. Osborne, T.Z. †, V.D. Nair, L.R. Ellis, B. Jones, and W.G. Harris. 2012. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
6. Nair, V.D., M. W. Clark†, and K. R. Reddy. 2012. Prediction of phosphorus release from wetland soils. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
7. Nair, V.D., W.G. Harris, P.K.R. Nair, and D.A. Graetz. 2006. 18th World Congress of Soil Science. July 9-15, Philadelphia, PA. (*Abstract on Phosphorus storage capacity of soils under various animal operations*).
8. Nair, V. D., S.G. Haile\*\*, G.A. Michel\*\*, and P.K.R. Nair. 2006. Brazilian Congress of Agroforestry. VI. October 23-27, 2006. Campos dos Goytacazes, Rio De Janeiro, Brazil (*Abstract on Environmental improvement of agricultural lands through silvopasture. Out of the numerous presentations, this paper was one among three selected for subsequent publication in Scientia Agricola*).
9. Allen, S.C.,\* V.D. Nair, S. Jose, and D.A. Graetz. 2004. 1<sup>st</sup> World Congress of Agroforestry. June 27-July 2, 2004. Orlando, FL. (*Abstract on Tree-crop competition for nutrients in a pecan-cotton agroforestry system*).
10. Nair, V.D., R.S. Kalmbacher, S.C. Allen\*, D.A. Graetz, E. Ellis\*, and I. Ezenwa\*. 2004. 1<sup>st</sup> World Congress of Agroforestry. June 27-July 2, 2004. Orlando, FL. (*Abstract on phosphorus and nitrogen dynamics in silvopasture, open pasture and rangeland in south-central Florida*).

11. Nair, V.D., S. Jose, R.S. Kalmbacher, D.A. Graetz, and P.K.R. Nair. 2004. Reducing nutrient loss from Florida soils through agroforestry practices. Environmental Emelioration Session. 1<sup>st</sup> World Congress of Agroforestry. June 27-July 2, 2004. Orlando, FL
13. Chrysostome, M\*\*, V.D. Nair, R.D. Rhue, W.G. Harris, K.M. Portier, and D.A. Graetz. 2004. Sustainable Land Application Conference. January 4-8, 2004. Lake Buena Vista, FL (*Abstract on Minimizing confounding factors in P leaching assessment for dairy and poultry manure-amended soils*).
14. Josan, M.S.\*\*, V.D. Nair, and W.G. Harris. 2004. Sustainable Land Application Conference. January 4-8, 2004. Lake Buena Vista, FL (*Abstract on Associated release of magnesium and phosphorus from active and abandoned dairy soils; also full paper in the Journal of Environ. Qual.*).
15. Nair, V.D., D.A. Graetz, and M.L. Walker\*\*\*. 17th World Congress of Soil Science. Bangkok, Thailand. August 14-21, 2002. (*Abstract and full paper on Degree of phosphorus saturation (DPS): An indicator for predicting water quality degradation.*).
16. Nair, P.K R., and V.D. Nair. 17th World Congress of Soil Science. Bangkok, Thailand. August 14-21, 2002. (*Abstract and full paper on Carbon sequestration in agroforestry systems*).

***Presentations at National Meetings - Invited***

1. Mylavarapu, R.S., S.P Boetger, V.D. Nair., D.A., Graetz, and G. Hendricks. 2001. Nutrient Management in Florida ASA/SSSA/CSSA Annual Meeting. October 21-25, 2001. Charlotte, NC. (*Abstract on Nutrient Management in Florida.*)
2. Graetz, D.A., W.D. Tooke, R.S. Mylavarapu, and V.D. Nair. Nutrient management in Florida. ASA/SSSA Annual Meeting, November 5-9, 2000. Minneapolis, MN.
3. Graetz, D.A., V.D. Nair, O.G. Olila, and W.G. Harris. 1993. Fractionation of inorganic phosphorus in soils and sediments ASA/SSSA Annual Meeting November 7-12, 1993. Cincinnati, OH. (*Abstract on Fractionation of inorganic phosphorus in soils and sediments.*)

***Presentations at National Meeting – Volunteered***

All ASA/SSSA/CSSA Annual Meetings from 2004 are International Meetings.

1. Danmova, N, Levia, J.A., Nkedi Kizza, P., Jawitz, J., Morgan, K.T., Harris, W.G., Nair, V.D., and MacDonald, G. 2016. Sorption and transport of phosphorus and nitrogen in soils from Florida and Nigeria in a mixture of fertilizers and pesticides. ASA/CSSA/SSSA Meetings, Phoenix, AZ.

2. Dari, B., C.L. Mackowiak, V.D. Nair and J.P. Shirley. 2016. Soil phosphorus storage capacity in Florida soils receiving fertilizer alternatives. ASA/CSSA/SSSA Meetings, Phoenix, AZ. November 6-9, 2016.
3. Freitas, A., V.D. Nair, W.G. Harris, and C. Mackowiak. 2016. Phosphorus release from biochar of various feedstocks: Implications for land management. ASA/CSSA/SSSA Meetings, Phoenix, AZ. November 6-9, 2016.
4. Nair, V.D., Freitas, A.M., and Harris, W.G. 2016. Land application of biochar: “an inconvenient truth.” ASA/CSSA/SSSA Meetings, Phoenix, AZ. November 6-9, 2016.
5. Nair, V.D., L.E. Sollenberger, W.G. Harris, A. Sharpley, P. Kleinman, and Dorcas Franklin. 2016. Quantitative approach for recovering legacy phosphorus while minimizing crop nutrient deficiency risk. p113. 2016 AFRI/NIWQP Annual Project Directors Meeting. Washington D.C. 20024. October 12-13, 2016.
6. Nilovna C., V.D. Nair, P.K.R. Nair, and S. Gerber. 2016. Carbon Storage and Dynamics in Soil Fractions under Shaded Perennial Agroforestry Systems. ASA/CSSA/SSSA Meetings, Phoenix, AZ. November 6-9, 2016.
7. Pinheiro, F., P.K.R. Nair, and V.D. Nair. 2016. Use of biochar in Brazilian land-use systems: The current state of knowledge. ASA/CSSA/SSSA Meetings, Phoenix, AZ. November 6-9, 2016.
8. Chatterjee, N\*\*, B. Dari, V.D. Nair, and P.K.R. Nair. 2015. Phosphorus sorption behavior in biochar-amended soils. ASA/CSSA/SSSA Meetings, Mineapollis, Minesotta
9. Dari, B.\*\*, V.D. Nair, W.G. Harris, and R. Mylavarapu. 2015. Estimation of isotherm parameters: a simple and cost-effective procedure. ASA/CSSA/SSSA Meetings, Mineapollis, Minesotta
10. Nair, V.D., B. Dari\*\*, D. Chakraborty, and W.G. Harris. 2015. Correspondence of the phosphorus saturation ratio threshold with environmental indicators of phosphorus loss risk. ASA/CSSA/SSSA Meetings, Mineapollis, Minesotta
11. Rafael Goncalves Tonucci, Rasmoo Garcia, and Vimala Nair. 2015. Trees and grass contribution to soil organic carbon in agroforestry systems. World congress on integrated crop-livestock-forest systems; International symposium on integrated crop-livestock systems. Brasília, df. Towards sustainable intensification: proceedings. Brasília.
12. Schmidt, Casey A., Biswanath Dari, Nilovna Chatterjee, David S. Howlett and Vimala D. Nair. 2015. Nutrient and Water Retention Dynamics of Biochar Produced from Pinyon-Juniper Forest Thinning in Nevada. ASA/CSSA/SSSA Meetings, Mineapollis, Minesotta.
13. Dari, B.\*\*, V.D. Nair, R. Mylavarapu, and W.G. Harris. 2014. Hardwood and poultry litter biochar effects on phosphorus sorption of soil. ASA/CSSA/SSSA 2014 International Annual Meetings, Long Beach, CA on November 2–5, 2014. (poster).
14. Dari, B.\*\*, V.D. Nair, W.G. Harris, and R. Mylavarapu. 2014. Input parameters in phosphorus loss predictive models based on compositional characteristics of Spodosol and Ultisol profiles. ASA/CSSA/SSSA 2014 International Annual Meetings, Long Beach, CA on November 2–5, 2014.

15. Dari, B.\*\*\*, V D Nair, R S Mylavarapu and W G Harris. 2014. Can biochar amendment reduce soil phosphorus loss risk? SERA 17 Meetings, Des Moines, IA. July 22–25, 2014
16. Nair, V.D., W.G. Harris, M. Chrysostome, D. Chakraborty, and M.W. Clark. 2014. Challenges in assessment of legacy phosphorus. ASA/CSSA/SSSA 2014 International Annual Meetings, Long Beach, CA on November 2–5, 2014.
17. Banik, B.\*\*\*, W. Harris, A. Ogram, V. Nair, and M. Cohen. 2013. Response of Carbon and Metals to Experimentally-Controlled Water Tables. 14<sup>th</sup> Annual Research Forum. Soil and Water Science Department, University of Florida.
18. Banik, B. \*\*, W. Harris, A. Ogram, V. Nair, and M. Cohen. 2013. Water Table Effects on Fate of Carbon and Metals in Soil Columns. ASA/CSSA/SSSA 2013 International Annual Meetings, Tampa, FL on November 3-6, 2013. CD Rom Publication.
19. Dari, B.\*\*, V.D. Nair, R. Mylavarapu, and W.G. Harris. 2013. Biochar application and Phosphorus sorption behavior. 20<sup>th</sup> World Congress of Soil Science on June 8 – 13, 2004, Jeju, Korea.
20. Dari, B.\*\*, V.D. Nair, R. Mylavarapu and W.G. Harris. 2013. Model Parameters from Soil Test Data for Input into Phosphorus-loss Predictive Models. 4<sup>th</sup> UF Water Institute Symposium, February 11-12, 2014. Gainesville, Florida.
21. Dari, B.\*\*, V.D. Nair, and R. Mylavarapu. 2013. Obtaining Model Input Parameters for Predicting Phosphorus Leaching using PLEASE Model. 14<sup>th</sup> Annual Research Forum. Soil and Water Science Department, University of Florida.
22. Dari, B.\*\*, V.D. Nair, W.G. Harris, and R. Mylavarapu. 2013. Tools for Predicting Phosphorus Storage and Release in Soils of Animal Agricultural Production Systems. ASA/CSSA/SSSA 2013 International Annual Meetings, Tampa, FL on November 3-6, 2013. CD Rom Publication.
23. Lana, R.M.Q., A.M.Q. Lana, A De A Silva, G. A. F. Prado, and V.D.Nair. 2013. Productivity of brachiaria forage intercropping with eucalyptus in a silvopastoral system in the brazilian cerrado biome. FITA2013 "Sustainable Agriculture through ICT innovation", June 23-27, 2013, Italy.
24. Lana, A.Q.M., R.M.Q. Lana, G. A. F. Prado, A De A Silva, and V.D. Nair. 2013. Nutritive value of brachiaria forage intercropping with eucalyptus in a silvopastoral system in the Brazilian cerrado biome. EFITA2013 "Sustainable Agriculture through ICT innovation", June 23-27, 2013, Italy.
25. Mylavarapu, R.S., W.G. Harris and V.D. Nair. 2013. Diagnostics for Environmental Assessment of Phosphorus. Technical Session, NIFA SERA-IEG-6 Southern Region Annual Meeting, Baton Rouge, LA., June 16-18.
26. Nair, V.D. The Power of a Soil's Threshold Phosphorus Saturation Ratio. 2013. ASA/CSSA/SSSA 2013 International Annual Meetings, Tampa, FL on November 3-6, 2013. CD Rom Publication.
27. Nair, V.D., P.K.R. Nair, R. Mosquera-Losada, G-A Michel, D. Howlett, and P. Nkedi-Kizza. Innovative Technology for Water Quality Protection in Agroforestry Systems. 3<sup>rd</sup> World Congress on Agroforestry, February 10-14, 2014; Delhi, India.

28. Dari, B.\*\*\*, V.D. Nair, R. Mylavarapu, and W.G. Harris. 2012. Relating “Freundlich k” to the Soil Phosphorus Saturation Ratio. Southern Branch ASA Meetings.
29. Dari, B.\*\*\*, V.D. Nair, R.D. Rhue and R. Mylavarapu. 2012. Obtaining Langmuir parameters from a soil test solution. 13<sup>th</sup> Annual Research Forum. Soil and Water Science Department, University of Florida.
30. Dari, B.\*\*\*, V.D. Nair, R.D. Rhue and R. Mylavarapu. 2012. Relationship of Langmuir parameters to the soil phosphorus saturation ratio. ASA/CSSA/SSSA 2012 International Annual Meetings. CD Rom Publication.
31. Nair, V.D., T.Z. Osborne, L.R. Ellis, B. Jones, and W.G. Harris. 2012. Spatial distribution of phosphorus in the Kissimmee River floodplain soils. ASA/CSSA/SSSA 2012 International Annual Meetings. CD Rom Publication.
32. Saha, S., P.K.R. Nair, V.D. Nair, and B.M. Kumar. Soil carbon storage in tropical land-use systems and its implications to food security and climate change management. Poster session presented at: International Symposium on Managing Soils for Food Security and Climate Change Adaptation and Mitigation; 2012 July 23 – 27; Vienna, Austria [Conference ID: 41176 (D1-CN-191)].
33. Chakraborty, D., V.D. Nair, T.Z. Osborne, and L.R. Ellis. 2012. Phosphorus retention and release from the Kissimmee River sediment and floodplain soils. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
34. Osborne, T.Z., V.D. Nair, L.R. Ellis, B. Jones, and W.G. Harris. 2012. Soil nutrient storage and cycling in the restored Kissimmee River floodplain. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
35. Nair, V.D., M. W. Clark, and K. R. Reddy. 2012. Prediction of phosphorus release from wetland soils. INTECOL 9 Wetlands Conference. June 2012. Orlando, Florida.
36. Chakraborty, D., V.D. Nair, and T.Z. Osborne. 2011. Phosphorus retention and release from the Kissimmee River sediment and floodplain soils. The 3<sup>rd</sup> UF Water Institute Symposium. February 15 - 16, 2012, Gainesville, FL
37. Dari, B.\*\*\*, V.D. Nair, D.A. Graetz, and R. Mylavarapu. 2011. Soil phosphorus dynamics in a dairy farm during a seven-year period. The 3<sup>rd</sup> UF Water Institute Symposium. February 15 - 16, 2012, Gainesville, FL
38. Chakraborty, D.\*\*\*, and V.D. Nair. 2011. 12<sup>th</sup> Annual Research Forum. Soil and Water Science Department, University of Florida.
39. Chakraborty, D.\*\*\*, V.D. Nair, and W.G. Harris. 2011. ASA/CSSA/SSSA 2011 International Annual Meetings. CD Rom Publication.
40. Mitchell et al. 2011. The 3<sup>rd</sup> UF Water Institute Symposium. February 15 - 16, 2012, Gainesville, FL
41. Nair, V.D. 2011. Water Institute Symposium. 2011. A quantitative approach to soil phosphorus loss risk assessment. The 3<sup>rd</sup> UF Water Institute Symposium. February 15 - 16, 2012, Gainesville, FL



42. Nair, V.D., M.W. Clark, and K.R. Reddy. 2011. ASA/CSSA/SSSA 2011 International Annual Meetings. CD Rom Publication.
43. Qin, Z.\*\*, Shober, A., and V.D. Nair. 2011. 12<sup>th</sup> Annual Research Forum. Soil and Water Science Department, University of Florida.
44. Qin, Z.\*\*, A. Shober, A, and V.D. Nair. 2011. ASA/CSSA/SSSA 2011 International Annual Meetings. CD Rom Publication.
45. Chakraborty, D.\*\*, V.D. Nair, and W.G. Harris. 2010. ASA/CSSA/SSSA 2010 International Annual Meetings. Oct. 31 – Nov. 3, Long Beach, CA.
46. Mosquera-Losada, M.R., Ferreiro-Domínguez, N., Nair, V.D., Rigueiro-Rodríguez, A 2010. European Society of Agronomy, Montpellier, France.
47. Nair, V.D., and W.G. Harris. 2010. ASA/CSSA/SSSA 2010 International Annual Meetings. Oct. 31 – Nov. 3, Long Beach, CA.
48. Nair, V.D., and P.K.R. Nair. 2010. Aggregate formation and soil carbon sequestration under tree-based systems in various agroecological regions. XXIII IUFRO World Congress. 23-28 August 2010, Seoul, Korea.
49. Showalter, J.M\*\*, Nair, V.D., and P.K.R. Nair. Soil aggregation and recalcitrant carbon in a Florida silvopasture system. ASA/CSSA/SSSA 2010 International Annual Meetings. CD Rom Publication. Oct. 31 – Nov. 3, Long Beach, CA.
50. Chakraborty, D.\*\*, V.D. Nair, and W.G. Harris. 2009. ASA/CSSA/SSSA 2009 International Annual Meetings. Nov 1-5, Pittsburgh, PA.
51. Chakraborty, D.\*\* and V.D. Nair. 2009. Environmental Engineering Sciences Symposium, hosted by the UF Air and Water Management Association and the Society of Environmental Engineers. University of Florida, Gainesville, FL.
52. Haile, S.G.\*, V.D. Nair, and P.K.R. Nair. 2009. ASA/CSSA/SSSA 2009 International Annual Meetings. Nov 1-5, Pittsburgh, PA.
53. Nair, P.K.R., V.D. Nair, Haile\*, S.K., Saha,\* D.S. Howlett\*\*, A.N.G. Takimoto, E.F. Gama-Rodrigues, and R.G. Tonucci. 2009. ASA/CSSA/SSSA 2009 International Annual Meetings. Nov 1-5, Pittsburgh, PA.
54. Nair, V.D., M.W. Clark, and K.R. Reddy. 2009. ASA/CSSA/SSSA 2009 International Annual Meetings. Nov 1-5, Pittsburgh, PA.
55. Wang, Y., K.R. Reddy, V.D. Nair, and R.R. Villapando. 2009. ASA/CSSA/SSSA 2009 International Annual Meetings. Nov 1-5, Pittsburgh, PA.
56. Chakraborty, D.\*\*, V.D. Nair, and W.G. Harris. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9 2008, Houston, TX.
57. Gama-Rodrigues, E.F., P.K.R. Nair, V.D. Nair, A.C. Gama-Rodrigues, V.C. Baligar, and R.C. Machado. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9 2008, Houston, TX.
58. Haile, S.G.\*, V.D. Nair, and P.K.R. Nair. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9 2008, Houston, TX.

59. Howlett, D.\*\*, M-R Mosquera-Losada, P.K.R. Nair, A. Rigueiro-Rodriguez, V.D. Nair, and G. Moreno. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9, 2008, Houston, TX.
60. Mosquera-Losada, M-R., V.D. Nair, D. Moran, P.K.R. Nair, J.J. Santiago-Freijanes, and A. Rigueiro-Rodriguez. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9, 2008, Houston, TX.
61. Nair, V.D., W.G. Harris, and L.E. Sollenberger. 2008. ASA/CSSA/SSSA 2008 International Annual Meeting, Oct. 5-9 2008, Houston, TX.
62. Haile, S.G.\*, V.D. Nair, and P.K.R. Nair. (2008). International Symposium on Climate Information for Managing Risks: Partnerships and Solutions for Agricultural Resources. June 10-13 2008, St Pete Beach, FL.
63. Chrysostome, M.\*, V.D. Nair, and W.G. Harris. 2007. ASA/CSSA/SSSA 2007 International Annual Meeting, Nov. 4-8, 2007, New Orleans, LA
64. Harris, W.G., X. Cao, V.D. Nair, M.S. Josan\*, D.A. Herrera\*\*, and A.C. Wilkie. 2007. ASA/CSSA/SSSA 2007 International Annual Meeting, Nov. 4-8 2007, New Orleans, LA.
65. Josan, M.S.\*, V.D. Nair, and W.G. Harris. 2007. ASA/CSSA/SSSA International Annual Meeting, Nov. 4-8 2007, New Orleans, LA.
66. Nair, P.K., V.D. Nair, S.G. Haile\*\*, and G.A. Michel\*\*. 2007. 10th North American Agroforestry Conference.
67. Nair, V.D., W.G. Harris, M. Chrysostome\*, and R.D. Rhue. 2007. ASA/CSSA/SSSA International Annual Meeting, Nov. 4-8, 2007, New Orleans, LA.
68. Saha, S.K\*\*, P.K.R. Nair, V.D. Nair, and B.M. Kumar. 2007. ASA/CSSA/SSSA International Annual Meeting, Nov. 4-8, 2007, New Orleans, LA.
69. Rew, T.J.\*\*, D.A. Graetz, M.S. Josan, V.D. Nair, and W.G. Harris. 2007. ASA/CSSA/SSSA International Annual Meeting, Nov. 4-8, 2007, New Orleans, LA.
70. Takimoto, A., P.K.R. Nair, and V.D. Nair. 2007. ASA/CSSA/SSSA International Annual Meeting, Nov. 4-8, 2007, New Orleans, LA.
71. Cao, X., W.G. Harris, M.S. Josan\*\*, and V.D. Nair. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN.
72. Chrysostome, M.\*, V.D. Nair, W.G. Harris, and D.A. Graetz. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN.
73. Haile, S.\*\*, V.D. Nair, and P.K.R. Nair. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN.
74. Harris, W.G., V.D. Nair, R.D. Rhue, and M. Chrysostome\*. 2006. SERA-17 (Southern Extension-Research Activity) Meetings.
75. Herrera, D.A.\*\*, W.G. Harris, V.D. Nair, and C.R. Staples. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN.

76. Josan, M.S.\*\*\*, V.D. Nair, and W.G. Harris. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN.
77. Takimoto, A.\*\*\*, P.K.R. Nair, and V.D. Nair. 2006. ASA-CSSA-SSSA International Annual Meeting, Nov. 12-16, 2006, Indianapolis, IN
78. Haile, S.\*\*\*, P.K.R. Nair, and V.D. Nair. 2005. ASA/CSSA/SSSA International Annual Meeting, Nov. 6-10, 2005, Salt Lake City, UT.
79. Herrera, D.A.\*\*\*, C.R. Staples, W.G. Harris, and V.D. Nair. 2005. ASA/CSSA/SSSA International Annual Meeting, Nov. 6-10, 2005, Salt Lake City, UT.
80. Josan, M.S.\*\*\*, V.D. Nair, and W.G. Harris. 2005. ASA-CSSA-SSSA International Annual Meeting, Nov. 6-10, 2005, Salt Lake City, UT.
81. Michel, G.A.\*\*\*, V.D. Nair, P.K.R. Nair, and S. Allen\*. 2005. ASA/CSSA/SSSA International Annual Meeting. Nov. 6-10, 2005, Salt Lake City, UT.
82. Michel, G.A.\*\*\*, V.D. Nair, P.K.R. Nair, and S.C. Allen\*. 2005. 9<sup>th</sup> North American Agroforestry Conference.
83. Nair, V.D., W.G. Harris, L.R. Ellis\*, and D.H. Hornsby\*\*. 2005. ASA-CSSA-SSSA International Annual Meeting. Nov. 6-10, 2005, Salt Lake City, UT.
84. Rew, T.J.\*\*\*, D.A. Graetz, and V.D. Nair. 2005. ASA-CSSA-SSSA International Annual Meeting. Nov. 6-10, 2005, Salt Lake City, UT.
85. Chrysostome, M.\*\*\*, V.D. Nair, R.D. Rhue, and W.G. Harris. 2004. ASA/SSSA/CSSA International Annual Meeting, October/November 2004, Seattle, WA.
86. Harris, W.G., V.D. Nair, and R.D. Rhue. 2004. ASA/SSSA/CSSA International Annual Meeting, October/November 2004, Seattle, WA.
87. Harris, W.G. and V.D. Nair. 2004. Risk of phosphate movement from soils in the Suwannee River Basin. Suwannee River Basin and Estuary Integrated Science Workshop. September 22-24, 2004. Cedar Key, FL.
88. Josan, M.S.\*\*\*, V.D. Nair, and W.G. Harris. 2004. ASA/SSSA/CSSA International Annual Meeting, October/November 2004, Seattle, WA.
89. Nair, V.D. and W.G. Harris. 2004. ASA/SSSA/CSSA International Annual Meeting, October/November 2004, Seattle, WA.
90. Allen, S.C.\*, S. Jose, R.P.K. Nair, V.D. Nair, D.A. Graetz, and C. Ramsey. 2003. ASA/SSSA/CSSA Annual Meeting, November 2-6, 2003. Denver, CO.
91. Chrysostome, M.\*\*\*, V.D. Nair, R.D. Rhue, W.G. Harris, and D.A. Graetz. 2003. Southern Branch ASA Annual Meeting, Feb. 1-4, 2003. Mobile, AL
92. Nair, V.D., W.G. Harris, and D.A. Graetz. 2003. ASA/SSSA/CSSA Annual Meeting, November 2-6, 2003. Denver, CO.
93. Ramnarine\*\*, R., W.G. Harris, V.D. Nair, and K.M. Portier. 2003. Southern Branch ASA Annual Meeting, Feb. 1-4, 2003. Mobile, AL

94. Rhue, R.D., W.G. Harris§, and V.D. Nair. 2003. ASA/SSSA/CSSA Annual Meeting, November 2-6, 2003. Denver, CO.
95. Walker, L.C\*\*, D.A. Graetz, and V.D. Nair. 2003. Southern Branch ASA Annual Meeting, Feb. 1-4, 2003. Mobile, AL
96. Nair, V.D., D.A. Graetz, M.L. Walker\*\*\*, and K.M. Portier. ASA/SSSA/CSSA Annual Meeting, November 10-14, 2002. Indianapolis, IN
97. Nair, V.D., R.D. Rhue, W.G. Harris, and D.A. Graetz. ASA/SSSA/CSSA Annual Meeting, November 10-14, 2002. Indianapolis, IN
98. Hill, L.R.\*\*, D.A. Graetz, V.D. Nair, and P.J. Bohlen. ASA/SSSA/CSSA Annual Meeting, November 10-14, 2002. Indianapolis, IN
99. Walker, M.L.\*\*\*, V.D. Nair, and D.A. Graetz. ASA/SSSA/CSSA Annual Meeting, October 21-25, 2001. Charlotte, NC.
100. Nair, V.D., D.A. Graetz, W.G. Harris, G. Kidder, R.S. Mylavarapu, R.D. Rhue, and C.C. Truman. ASA/SSSA/CSSA Annual Meeting, October 21-25, 2001. Charlotte, NC.
101. Nair, V.D., N.J. Bissett, K.M. Portier, D.A. Graetz, and D.S. Segal. Annual Meeting of the American Society for Surface Mining and Reclamation, Tampa, FL, June 11-15, 2000.
102. N.J. Bissett, R.A. Garren, V.D. Nair, K.M. Portier, D.A. Graetz, and D.S. Segal. Annual Meeting of the American Society for Surface Mining and Reclamation Tampa, Florida, June 11-15, 2000.
103. Pant, H.K.\*, V.D. Nair, K.R. Reddy, and D.A. Graetz. ASA/SSSA Annual Meeting, November 5-9, 2000. Minneapolis, MN
104. Nair, V.D., and D.A. Graetz. ASA/SSSA Annual Meeting, October 31-November 5, 1999. Salt Lake City, UT.
105. Nair, V.D., D.A. Graetz, K.M. Portier, D.S. Segal, N.J. Bissett, and R.A. Garren. ASA/SSSA Annual Meeting, October 18-23, 1998. Baltimore, MD
106. Nair, V.D., and D.A. Graetz. 1996. November 3-8, 1996. ASA/SSSA Annual Meeting, Indianapolis, IN
107. Nair, V.D., D. A. Graetz, O.G. Olila\*, and K.R. Reddy. ASA/SSSA Annual Meeting, October 29-November 3, 1995. St. Louis, MO
108. Nair, V.D., D.A. Graetz, and E. Flaig. ASA/SSSA Annual Meeting November 13-18, 1994. Seattle, WA
109. Dooley, D.O.\*\*, D.A. Graetz, and V.D. Nair. ASA/SSSA Annual Meeting November 13-18, 1994. Seattle, WA
110. Nair, V.D., D.A. Graetz, and K.R. Reddy. ASA/SSSA Annual Meeting November 7-12, 1993. Cincinnati, OH

111. Dooley, D.O. \*\*\*, V.D. Nair, and D.A. Graetz. ASA/SSSA Annual Meeting, November 7-12, 1993. Cincinnati, OH.

***Presentations at State meetings – invited***

1. Nair, V.D. 2010. Factors and Procedures for Evaluating Phosphorus Loss from the Lake Okeechobee Watershed. Workshop on phosphorus management in the Okeechobee Basin. Okeechobee, Florida. June 02, 2010.
2. Nair, V.D. 2009. Factors and Procedures for Evaluating Phosphorus Loss from the Lake Okeechobee Watershed. Workshop on phosphorus management in the Okeechobee Basin. Okeechobee, Florida. June 17, 2009.
3. Nair V.D. 2008. Phosphorus storage and release characteristics pertinent to water table management and BMP implementations for Okeechobee Basin soils. Workshop on phosphorus management in the Okeechobee basin. Okeechobee, Florida. June 04, 2008.
4. Nair V.D. 2004. Cattle, Soils, and Water Quality: Spodosols of the Lake Okeechobee Basin. St. Johns River Water Management District. Palatka. March 11, 2004.
5. Harris, W.G., V.D. Nair, R.D. Rhue, D.A. Graetz, R.S. Mylavarapu, and C.C. Truman. 2004. Florida P-Index: Site-Specific Soil Assessment Approaches. 2004 Nutrient Management and Water Quality In-service Training, February 25-26, 2004. Gainesville, FL.
6. Nair, V.D., W.G. Harris, R.D. Rhue, D.A. Graetz, R.S. Mylavarapu, and C.C. Truman. 2004. Florida P-Index: The Leaching Potential Criterion. 2004 Nutrient Management and Water Quality In-service Training, February 25-26, 2004. Gainesville, FL.
7. Nair, V.D., S.C. Allen\*, and D.A. Graetz. 2004. Fourth Annual Meeting of the Advisory Council for the Center for Subtropical Agroforestry. May 13, 2004. Lake Mize Conference Center, Austin Cary Memorial Forest, FL (Abstract on Environmental Benefits of Agroforestry Systems: Nutrients).
8. Nair, V.D. and Graetz, D.A. Third Annual Meeting of the Advisory Council for the Center for Subtropical Agroforestry. May 22, 2003. University of Florida, Milton, FL (Abstract on Potential of agroforestry systems to reduce nutrient transport from farmlands).
9. Nair, V.D., H.G. Adegbidi, and D.A. Graetz. Second Annual Meeting of the Advisory Council for the Center for Subtropical Agroforestry. May 30, 2002. Lake Mize Conference Center, Austin Cary Memorial Forest, Florida. (Abstract on Nitrogen and phosphorus dynamics in agroforestry systems in Florida).
10. Graetz, D.A. and V.D. Nair. July 13-16, 1997. Clearwater Beach, Florida. (Abstract and book chapter on Inorganic forms of phosphorus in water and soils. Phosphorus biogeochemistry in Florida ecosystems).

***Presentations at State meetings – volunteered***

1. Nair, V.D., W.G. Harris, D.A. Graetz, R.D. Rhue, M. Chrysostome, and L.R. Ellis 2008. Phosphorus issues and protocol development for risk assessment in Florida watersheds. Sustainable Water Resources Symposium, UF Water Institute, Gainesville, FL.
2. Haile, S.\*\*\*, P.K.R. Nair, and V.D. Nair. 2006. Soil carbon pools in slash pine-based silvopastoral systems of North Florida. Joint Annual Meeting of the Florida State Horticultural Society and the Soil and Crop Science Society of Florida. June 4-6, 2006. Tampa, FL. Abstract 147.
3. Josan, M.S.\*\*, V.D. Nair, and W.G. Harris. 2006. Manure components affecting phosphorus stability of dairy manure-amended soils. Joint Annual Meeting of the Florida State Horticultural Society and the Soil and Crop Science Society of Florida. June 4-6, 2006. Tampa, FL. Abstract 148.
4. Michel, G.A.\*\*, V.D. Nair, and P.K.R. Nair. 2006. Reducing phosphorus loss from pastureland through silvopasture. Joint Annual Meeting of the Florida State Horticultural Society and the Soil and Crop Science Society of Florida. June 4-6, 2006. Tampa, FL. Abstract 150.
5. Rew, T.J.\*\*, D.A. Graetz, V.D. Nair, and G.A. O'Connor. 2006. Controlling phosphorus loss from a manure-impacted soil with aluminum water treatment residuals. Joint Annual Meeting of the Florida State Horticultural Society and the Soil and Crop Science Society of Florida. June 4-6, 2006. Tampa, FL. Abstract 152.
6. Harris, W.G. and Nair, V.D. 2004. Suwannee River Basin and Estuary Integrated Science Workshop. September 22-24 2004, Cedar Key, FL
7. Nair, V.D., D.A. Graetz, and E.G. Flaig. Phosphorus Biogeochemistry in Florida Ecosystems. July 13-16, 1997. Clearwater Beach, FL

**INTERNATIONAL ACTIVITIES**

**Significant International Activities since 2005**

**(Reverse chronological order)**

- On the Advisory Board of the Agroforestry Innovation Network (AFINET) European Project (science-based guidelines for innovation/ tools for farmers). Attended the first meeting on Feb 16—17, 2017
- Conducted Workshop on Scientific Writing and Effective Communication: January 5 – 6, 2015 at Goa University, Goa, India.
- Scientific Writing and Communication in Agriculture and Natural Resources Short Course. ICRIAT, Hyderabad, India: Dec 8 – 13, 2014.
- Scientific Writing and Communication in Agriculture and Natural Resources Short Course. Kyoto University, Japan. July 28 – Aug 7, 2014. Co-taught with PK Nair, SFRC.

- Phosphorus in Agricultural Lands: Problems and Sustainable Solutions. Seminar presented at Kyoto University, Japan. Aug 06, 2014.
- Co-organized a session on *Agroforestry, Water Quality and Nutrient Export* under the theme *Applying Science to the Future of Agroforestry: Policy Innovation and Global Issues* with Dr. M Rosa Mosquera Losada, at the 3<sup>rd</sup> World Agroforestry Congress, 10 – 14 Feb, 2014 New Delhi, India.
- Hosted a Brazilian PhD student, Rodrigo Martins Alves de Mendonca (Sept 2012 to March 2013; Sponsor: Brazilian institutions/agencies)
- Brazil, 2012: Organized symposium/workshop in Brazil:

*At the symposium at the Federal University of Uberlandia:*

- Livestock and water quality issues in agriculture and agroforestry systems
- Phosphorus loss from soils: Conventional and recent techniques for assessment and management
- Field trip to various farming systems including a dairy farm heavily impacted with manure P

*At the workshop in Belo Horizonte:*

- Question/Answer session on P storage and release from Brazilian soils
- Field trip to various farming systems including the research site of Rodrigo Martins Alves de Mendonca who is currently with me at the SWSD
- Graduate student Julia Showalter was in India (January 03, 2011 to February 01, 2011) for initial assessment of sites suitable for her PhD research
- Hosted Regina Lana Quintero, Professor, Federal University of Uberlandia – Brazil, September 2010 to October 2011.
- Kenya, 2009: 2<sup>nd</sup> World Congress of Agroforestry. Following my involvement with the 1<sup>st</sup> World Congress of Agroforestry, 2004, I organized a session “Agroforestry, Water Quality and Environmental Amelioration” at the 2<sup>nd</sup> World Congress in Nairobi, Kenya. Currently editing papers from the conference as an Assoc. Editor for a special collection of papers in the J. of Environmental Quality.
- India, 2008: Invited resource person for a UF – KAU (Kerala Agricultural University) Research Writing Workshop, 20 to 25 October 2008. Details are currently being worked out by the local host, Dr. B.M. Kumar. Participation in this workshop would enable me to share my experiences in manuscript writing as well as the review process to the participants of the workshop. Related activities of this collaboration are:
  - Student research in Kerala, India in 2007. Dr. Kumar is a committee member of the student. Work conducted by the student on carbon sequestration in homegardens in Kerala, India was presented at our society meetings under my active involvement (section 15, Abstracts: Saha et al. 2007) received an honorable mention at the 2007 poster competition (see Section 8).

- Manuscript on carbon sequestration (Section 16, Saha et al., 2009a, b)
- Spain, 2008: Delivered an invited inaugural lecture “Environmental Benefits of Agroforestry in Subtropical and Temperate Regions” to the ERASMUS (European Community Action Scheme for the Mobility of University Students Program) course and interacted with participants from 10 European countries; Santiago de Compostella, Spain; March 31 to April 06, 2008.
- China, 2007: Environmental Management and Protection Training Workshop, German—Chinese Cooperation (China). I was invited to participate in this workshop by German collaborators (see next bullet).
- Germany, 2007: Visited the University of Göttingen to discuss prospects for collaborative research. I shared my current research activities with German scientists. I was invited to participate in a workshop in China, which was based on German—Chinese collaboration.
- India, 2006: Examiner of PhD thesis No. 1543 (Agricultural Chemistry & Soil Science) of the University of Calcutta, Kolkatta, India entitled Polyphosphate Fertilizers of Iron-Manganese and Molybdenum. My MS student (graduated) and my current PhD student have associations with the major professor of this thesis.
- Brazil, 2006: Participated in the VI Brazilian Congress of Agroforestry Systems, University of RJ – Campos dos Goytacazes, Rio De Janeiro, Brazil, and interacted with Dr. Emanuela Gama-Rodrigues, which led to my co-hosting her as a visiting scientist at UF for one year from Dec 2007. We presented a paper at the ASA/SSSA/CSSA Annual Meetings (see section 15, Abstracts: Gama-Rodrigues et al., 2008). My presentation there was one of three selected to be developed as a full paper that was published in *Scientia Agricola* (section 15, Peer-reviewed journal articles, Nair et al., 2007).
- Brazil, 2006: Collaboration has been initiated with Luís Reynaldo Ferracciú Alleoni at the Dep.de Ciência do Solo, in Piracicaba, Sao Paolo – Brazil. Soil samples have been sent from our lab here to Brazil for testing of compatibility of soil testing methodologies adopted in US and Brazil. I will shortly be receiving additional samples from Brazil.
- Spain, 2005 to date: Visited and traveled extensively with local hosts (at the University of Santiago de Compostella) the northern and northwestern parts of the country for two weeks in October 2005 and provided suggestions on layout of collaborative field experiments. My involvement with the University has led to the following:
  - Collaborative work with researchers at the University in Lugo, Spain. The SPSC concept which I developed at the SWSD (Section 12: Research Narrative) is now being applied to the sandy soils of Spain. We have a joint presentation at the ASA/SSSA/CSSA annual meetings for which an abstract has already been submitted (Section 15: Abstracts, Mosquera-Losada et al. 2008).



- A US student with SFRC is working with Dr. Mosquera-Losada on a collaborative project which has led to another presentation at our society meetings (section 15, Abstracts: Howlett et al., 2008).

Note: In addition to the above, research activities on carbon sequestration on tree-based agricultural systems (collaborative projects with SFRC) is spread around six locations and as many agroforestry systems in five countries (Florida, USA -- silvopasture; Galicia, Spain -- dahesa; Kerala, India -- homegardens; Minas Gerais, Brazil -- silvopsture; Bahia, Brazil – shaded cacao and Ségoe, Mali -- parklands).

### **International Activities, 2000 to 2004**

- Spain, 2004: I was invited to serve as a member of the Scientific Committee at the Silvopastoralism and Sustainable Management International Congress held 18 to 24 April 2004, in Lugo, Spain. I was also invited to present a paper at the Congress (see Section 16). I co-authored two papers in this Congress (see session 15f.1). I was requested to review four papers in conjunction with their publication in the Silvopastoralism and Sustainable Land Management book (published by CAB International, UK in 2005). Collaboration with Spain continues (see above).
- Florida, 2001: Conducted Training program (two weeks) for forestry personnel from ICFRE, India (October 2001) through the Center for Subtropical Agroforestry, IFAS/SFRC/CSTAF. Their training included soil analytical procedures and instrumental analyses. Topics included phosphorus and nitrogen in the environment, soil fertility and nutrient management, restoration of phosphate-mined lands (herbaceous marshes and forested lands) and impacts of military-related activities on forested lands.
- Japan, 2000. Professional visit to Kyoto University, Kyoto, Japan (Nov./Dec. 2000). I was involved with the graduate students of the University, many of who would like to seek a higher degree in the US. I also had the opportunity to visit Tokyo University where I had informal discussion with the students on various aspects of graduate studies in Japan and in the US. I gave a formal presentation on scientific preparation of posters at the Kyoto University, with particular emphasis on the requirements for any presentation, including scientific writing.

### **International Conferences Attended**

- The 3rd European Agroforestry Conference 23-25 May 2016, Montpellier, France.
- The 2<sup>nd</sup> General Assembly of AGFORWARD, Chania, Greece. June 25, 2015.
- World congress on integrated crop-livestock-forest systems; International symposium on integrated crop-livestock systems. 2015. Brazil.
- 3<sup>rd</sup> World Congress on Agroforestry, February 10-14, 2014; Delhi, India.
- 2<sup>nd</sup> World Congress of Agroforestry, Nairobi, Kenya. 23-28 August 2009.
- VI Brazilian Congress of Agroforestry Systems, Campos dos Goytacazes, Brazil. October 2006 (invited)
- 18th World Congress of Soil Science in Philadelphia, Pennsylvania, July 2006

- International Union of Forest Research Organizations (XXII IUFRO World Congress), Brisbane, Queensland, Australia. August 2005 (invited).
- Joint Annual General Meeting and Convention of the Canadian Institute of Forestry and the Society of American Foresters, Edmonton, Canada. October, 2004.
- 1<sup>st</sup> World Congress of Agroforestry, Orlando, Florida., June/July 2004 (member of the Organizing Committee)
- Silvopastoralism and Sustainable Management International Congress, Lugo, Spain. April 2004 (member of the Scientific Committee)
- 17th World Soil Science Congress in Bangkok, Thailand. August 2002. A paper resulting from this presentation (and discussions with other scientists) was published in the Journal of Environmental Quality in 2004 (session 15f.1).
- International Union of Forest Research Organizations (XXI IUFRO World Congress), Kuala Lumpur, Malaysia. August 2000.