Curriculum Vitae:

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Education: **Ph.D**. 1997, Soil Science. Beneficial uses of coal combustion byproducts in agriculture. University of Georgia, Athens, GA.
M.Sc. 1987, Agronomy, and **B.Sc.** 1985, Agronomy
University of Natal, Pietermaritzburg, South Africa.

Professional Experience:
Assistant Professor, 2001-07; Associate Professor, 2007- present,
Univ. of Florida, IFAS, CREC, Lake Alfred, Florida.
Research Interests: soil chemistry and fertility, soil-plant-water relations, nutrient Best Management Practices (BMPs), environmental and remote sensing, GIS/GPS, electronics, computer programming, precision agriculture applications and agricultural automation.

Professional Societies and Journal Editorial Service:
American Society of Horticultural Science: 2007- present
Editorial Board, Communications in Soil Science and Plant Analysis- 2004- present
Soil Science Society of America: 1994- present.
Florida State Horticultural Society: 2001- present
American Society of Agronomy: 1994- present
South African Sugar Technologist's Association: 1997-2002

International Research Experience:
Cooperative projects since 2007 with the Nova Scotia Agricultural College on Precision Agriculture of Wild Blueberries in Nova Scotia, Canada

Selected Publications: (of a total of over 80 publications)

Min, M., W. Lee, T.F. Burks, J.D. Jordan, **A.W. Schumann,** J.K. Schueller, and H. Xie. 2008. Design of a Hyperspectral Nitrogen Sensing System for Citrus. *Computers and Electronics in Agriculture*. 63: 215-226.

Zaman Q., **A.W. Schumann**, D.C. Percival, and R.J. Gordon. 2008. Estimation of wild blueberry fruit yield using digital color photography. *Transactions of the ASABE* 51(5):1539-1544.

Cugati, S.A., W.M. Miller, J.K. Schueller, **A.W. Schumann**, S.M. Buchanon, and H.K. Hostler. 2007. Benchmarking of dynamic performance of two commercial variable-rate controllers and components. *Transactions ASABE*. 50(3):795-802.

Zaman, Q., **A.W. Schumann**, and H.K. Hostler. 2007. Quantifying sources of error in ultrasonic measurements of citrus orchards. *Applied Engineering in Agriculture*. 23(4):449-453.

Alva, A.K., S. Paramasivam, T.A. Obreza, and **A.W. Schumann**. 2006. Nitrogen Best Management Practice for citrus trees: I. Fruit yield, quality, and leaf nutritional status. *Scientia Horticulturae* : 107(3):233-244.

Alva, A.K., S. Paramasivam, A. Fares, T.A. Obreza, and **A.W. Schumann**. 2006. Nitrogen Best Management Practice for citrus trees: II. Nitrogen fate, transport, and components of N budget. *Scientia Horticulturae* : 109(3):223-233.

Li, H., J.P. Syvertsen, C.W. McCoy, R.J. Stuart, and **A.W. Schumann**. 2006. Water stress and root injury from simulated flooding and *Diaprepes abbreviatus* root weevil larval feeding in citrus. *Soil Science* 171(2): 138-151.

Schumann, A.W., H.K. Hostler, S.M. Buchanon, and Q. Zaman. 2006a. Relating citrus canopy size and yield to precision fertilization. *Proceedings of the Florida State Horticultural Society* 119(2007). 9 pp.

Schumann, A.W., W.M. Miller, S.A. Cugati, H.K. Hostler and S.M. Buchanon. 2006b. Optimizing variable rate granular fertilizer spreader performance for single-tree prescription zones. *American Society of Agricultural and Biological Engineers Annual International Meeting*, July 2006. Paper No. 061073. St. Joseph, Mich.: ASABE. 13 pp.

Schumann, A.W., W.M. Miller, Q.U. Zaman, K.H. Hostler, S. Buchanon, and S. Cugati. 2006c. Variable rate granular fertilization of citrus groves: spreader performance with single-tree prescription zones. *Applied Engineering in Agriculture* 22(1): 19-24.

Zaman, Q., **A.W. Schumann**, and S. Shibusawa. 2006. Impact of variable rate fertilization on nitrate leaching in a citrus orchard. *8th International Conference on Precision Agriculture*, Minneapolis, Mn. 15 pp.

Zaman, Q. and **A.W. Schumann**. 2006. Rapid estimation of citrus tree damage from hurricanes in Florida using an ultrasonic tree measurement system. *HortTech* 16(2): 339-344.

Zaman, Q., **A.W. Schumann**, and K.H. Hostler. 2006. Estimation of citrus fruit yield using ultrasonically-sensed tree size. *Applied Engineering in Agriculture* 22(1): 39-44.

Zaman, Q. and **A.W. Schumann**. 2006. Nutrient management zones for citrus based on variation in soil properties and tree performance. *Precision Agriculture* 7(2006): 45-63.

Miller, W.M., **A.W. Schumann**, J.D. Whitney, and S. Buchanon. 2005. Variable rate applications of granular fertilizer for citrus test plots. *Applied Engineering in Agriculture* 21(5): 795-801.

Schumann, A.W. and Q. Zaman. 2005. Software development for real-time ultrasonic mapping of tree canopy size. *Computers and Electronics in Agriculture* 47(1): 25-40.

Zaman, Q. and **A.W. Schumann**. 2005. Performance of an ultrasonic tree volume measurement system in commercial citrus groves. *Precision Agriculture* 6(5): 467-480.

Zaman, Q., **A.W. Schumann**, and W.M. Miller. 2005. Variable rate nitrogen application in Florida citrus based on ultrasonically-sensed tree size. *Applied Engineering in Agriculture* 21(3): 331-335.

Li, H., J.P. Syvertsen, R.J. Stuart, C.W. McCoy, **A.W. Schumann**, and W.S. Castle. 2004. Soil and *Diaprepes abbreviatus* root weevil spatial variability in a poorly drained citrus grove. *Soil Science* 169(9): 650-662.

Schumann, A.W. and M.E. Sumner 2004. Formulation of environmentally sound waste mixtures for land application. *Water Air and Soil Pollution* 152 (1-4): 195-217.