# LYNETTE MALECKI BROWN, Ph.D.

**Areas of Specialization:**

Biogeochemical cycling of nutrients in aquatic systems including coastal and freshwater wetlands, estuaries, lakes, and riverine systems; treatment performance and management of constructed wetlands for nutrients and emerging contaminants; internal nutrient loading dynamics of lakes and rivers; effects of alum in aquatic ecosystems; wetland delineation; and soil science.

**Experience:**

Associate Scientist III, Breedlove, Dennis & Associates, Inc., Winter Park, Florida. 2007 to Present.

- Performed state and federal wetland delineation in Florida and the Southeastern United States.
- Monitored wetland mitigation sites for vegetation composition, aerial coverage and species.
- Wrote mitigation plans, state and federal permits, and environmental constraint reports.
- Completed soil surveys and analysis on various projects for state and federal jurisdiction.
- Performed gopher tortoise surveys and relocations.

Postdoctoral Researcher, Louisiana State University, Baton Rouge, Louisiana. 2007.

- Drafted and revised manuscripts associated with wetland biogeochemistry.

Predoctoral Fellow, University of Florida, Gainesville, Florida. 2002 to 2007.

- Researched literature on chemical amendments extensively, particularly alum, for phosphorus sequestration in lakes and wetlands.
- Conducted field and laboratory work associated with dissertation including intact core incubation studies, mesocosm study, and transect field study.
- Purchased all necessary field and laboratory equipment.
- Managed and analyzed data and published and presented results.
- Conducted weekly/biweekly water quality sampling at the Orlando Easterly Wetland and all nutrient analysis.
- Managed laboratory assistant assigned to project.

Student Intern, St. Johns River Water Management District, Palatka, Florida. 2000 to 2001.

- Performed monthly water quality sampling.
- Carried out sediment restoration experiment on soil cores from Newnans Lake, Gainesville, Florida.

- Performed data entry and analysis.
- Researched literature as identified by project leaders.

Graduate Research Assistant, University of Florida, Gainesville, Florida. 1999 to 2002.

- Carried out *in situ* and laboratory nutrient flux studies on the Lower St. Johns River.
- Operated as field assistant and data manager for the Lower St. Johns River project.
- Managed laboratory assistants assigned to project.

**Education:**

Ph.D. University of Florida, Gainesville, Florida, 2007. Soil and Water Science.

M.S. University of Florida, Gainesville, Florida, 2002. Soil and Water Science. Minor in Environmental Engineering.

B.S. Saint Mary's College, Notre Dame, Indiana, 1999. Biology.

**Associations:**

American Water Resources Association (2006 to Present)

Association of Women Soil Scientists (2006 to Present)

Florida Association of Environmental Soil Scientists (2007)

Florida Lake Management Society (2001 to Present)

Sigma Xi Scientific Research Society (1999 to Present)

Soil Science Society of America (2001 to Present)

**Honors:**

University of Florida, College of Agriculture and Life Sciences, Council of Graduate Schools/UMI® Distinguished Dissertation Award Nominee (2007)

British Petroleum Student Travel Grant to 9th International Symposium on Biogeochemistry of Wetlands (2005)

University of Florida, IFAS Master's Thesis of the Year Award (2002)

University of Florida Alumni Fellowship (2002 to 2006)

Graduated from Saint Mary's College *summa cum laude* (1999)

Saint Mary's College Presidential Merit Scholar (1995 to 1999)

**Publications:**

**Malecki-Brown, L. M.** and J. R. White. 2009. *Effect of aluminum-containing amendments on phosphorus sequestration of wastewater treatment wetland soil*. Soil Science Society of America Journal 73: 852-861.

**Malecki-Brown, L. M.**, J. R. White, and H. Brix. 2009. *Aquatic macrophyte growth and nutrient uptake in alum-treated wastewater treatment wetland mesocosms*. Chemosphere (in review).

**Malecki-Brown, L. M.**, J. R. White, and M. Sees. 2009. *Alum application to improve water quality in a municipal wastewater treatment wetland*. Journal of Environmental Quality 38: 814-821.

White, J. R., C. L. Miner, **L. M. Malecki-Brown**, M. Sees, and W. F. Debusk. 2007. *Storage and partitionins of soil phosphorus in an aging wastewater treatment wetland.* To be submitted to Wetlands (in preparation). University of Florida, Gainesville, Florida.

**Brown, L. M.** 2007. *Effect of alum on phosphorus sequestration, macrophytes, microbial community and mineralogy in a municipal wastewater treatment wetland.* Ph.D. dissertation. University of Florida, Gainesville, Florida.

**Malecki-Brown, L. M.** and J. R. White. 2007. *Phosphorus sequestration in aluminum amended soils from a municipal wastewater treatment wetland.* Soil Science Society of America Journal (accepted with revisions).

**Malecki-Brown, L. M.** and J. R. White. 2007. *Alum treatment to improve water quality in a municipal wastewater treatment wetland.* Journal of Environmental Quality (accepted with revisions).

**Malecki-Brown, L. M.** and J. R. White. 2007. *Aquatic macrophyte growth and nutrient uptake in alum-treated wastewater treatment wetland mesocosms*. To be submitted to Aquatic Botany (accepted with revisions).

**Malecki-Brown, L. M.**, J. R. White, and K. R. Reddy. 2007. *Soil biogeochemical characteristics influenced by alum application in a municipal wastewater treatment wetland*. Journal of Environmental Quality 36:1904-1913.

**Malecki, L. M.**, J. R. White, and K. R. Reddy. 2007. *Dissolved nutrient dynamics in sediments of the Lower St. Johns River Estuary*. Journal of Environmental Quality (in review).

**Malecki, L. M.**, J. R. White, and K. R. Reddy. 2004. *Nitrogen and phosphorus flux rates from sediment in the Lower St. Johns River Estuary.* Journal of Environmental Quality 33: 1545-1555.

**Malecki, L. M.** and J. R. White. 2002. *Temporal and spatial variability of nutrient fluxes from sediment in the Lower St. Johns River Estuary*. Soil and Water Science Research Brief. University of Florida. Gainesville, Florida.

**Malecki, L. M.** 2002. *Temporal and spatial variability of nutrient fluxes from sediment in the Lower St. Johns River.* Master's Thesis. University of Florida, Gainesville, Florida.

**Presentations:**

**Malecki-Brown, L. M.** and J. R. White. November 2007. *Effects of alum in a municipal wastewater treatment wetland.* Oral presentation at the American Society of Agronomy (ASA)-Crop Science Society of America (CSSA)-Soil Science Society of America (SSSA) International Annual Meeting, New Orleans, Louisiana.

**Malecki-Brown, L. M.** March 2007. *Effects of alum in a municipal wastewater treatment wetland.* Soil and Water Science Department Ph.D. Oral presentation at Exit Seminar, Gainesville, Florida.

**Malecki-Brown, L. M.**, J. R. White, and K. R. Reddy. November 2006. *Phosphorus sequestration: Using alum in municipal wastewater treatment wetland mesocosms*. Oral presentation at ASA-CSSA-SSSA International Annual Meeting, Indianapolis, Indiana.

**Malecki-Brown, L. M.**, J. R. White, and K. R. Reddy. September 2006. *Phosphorus sequestration: Using alum in municipal wastewater treatment wetland mesocosms.* Oral presentation at the University of Florida, IFAS, Soil and Water Science Department 7th Annual Graduate Research Forum, Gainesville, Florida.

**Malecki, L. M.** and J. R. White. November 2005. *Efficacy of chemically amended organic soils on P sequestration in a municipal wastewater treatment wetland*. Lead author at ASA-CSSA-SSSA International Annual Meeting, Salt Lake City, Utah.

**Malecki, L. M.** and J. R. White. June 2005. *Phosphorus sequestration using Al-containing amendments in organic soils from a municipal wastewater treatment wetland.* Oral presentation at the 16th Annual Florida Lake Management Society Conference, Duck Key, Florida.

**Malecki, L. M.** and J. R. White. March 2005. *Phosphorus sequestration using Al-containing amendments in organic soils from a municipal wastewater treatment wetland.* Oral presentation at the 9th International Symposium on Biogeochemistry of Wetlands, Baton Rouge, Louisiana.

White, J. R**., L. M. Malecki**, and K. R. Reddy. 2004. *Flux of N and P from sediments in the St. Johns River Estuary.* Co-author at the American Society of Limnology and Oceanography/The Oceanography Society Ocean Research Conference, Honolulu, Hawaii.

White, J. R. and **L. M. Malecki**. 2003. *Nitrogen and Phosphorus Flux from sediments in a Blackwater River Estuary, Florida, USA.* Co-author at the 8th International Symposium on Biogeochemistry of Wetlands, Ghent, Belgium.

**Malecki, L. M.** May 2003. *Temporal and spatial variability of nutrient fluxes from sediment in the Lower St. Johns River.* Invited oral presentation at St. Johns River Water Management District, Environmental Science seminar series, Palatka, Florida.

**Malecki, L. M.**, J. R. White, and K. R. Reddy. November 2002. *Temporal and spatial variability of nutrient fluxes from sediments in the Lower St. Johns River*. Poster presentation at the ASA-CSSA-SSSA Annual Meeting, Indianapolis, Indiana.

**Malecki, L. M.** and J. R. White. 2002. *Trends in Sediment Composition and Flux in the Lower St. Johns River Estuary.* Invited Oral Presentation at the Lower St. Johns River Research Coordination Conference, Jacksonville, Florida.

**Malecki, L. M.**, J. R. White, and K. R. Reddy. September 2002. *Investigation of nutrient fluxes from sediment in*

*the Lower St. Johns River*. Oral presentation at the University of Florida, IFAS, Soil and Water Science Department 3rd Annual Graduate Research Forum, Gainesville, Florida.

**Malecki, L. M.**, J. R. White, and K. R. Reddy. October 2001. *Influence of sediment dredging on the internal phosphorus load in Lake Okeechobee.* Poster presentation at the ASA-CSSA-SSSA Annual Meeting, Charlotte, North Carolina.

**Malecki, L. M.**, J. R. White, and K. R. Reddy. September 2001. *Influence of sediment dredging on the internal phosphorus load in Lake Okeechobee*. Poster presentation at the University of Florida, IFAS, Soil and Water Science Department 2nd Annual Graduate Research Forum, Gainesville, Florida.