David J. Burke
Assistant Scientist
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Education:

Rutgers University	Ph.D., Biology	2001
East Stroudsburg University	M.S., Biology	1996
Rutgers University	B.S., Environmental Science	1987

Appointments:

Department of Biology, Case Western Reserve University *Holden Assistant Professor of Biology*	2006-Present
The Holden Arboretum *Assistant Scientist, Rhizosphere Biologist*	2006-Present
Department of Environmental and Forest Biology, State University of New York *Postdoctoral Associate*	2005-2006
Boyce Thompson Institute for Plant Research at Cornell University *Postdoctoral Associate*	2002-2004
Center for Environmental Bioremediation, University of West Florida *Visiting Research Associate*	2003
Department of Mechanical Engineering, New Jersey Institute of Technology *Postdoctoral Associate*	2001-2002
Department of Biological Sciences, Rutgers University *Research Assistant*	2001
Department of Biological Sciences, Rutgers University *Teaching/Graduate Assistant*	1997-2000
Department of Biological Sciences, Rutgers University *Lecturer*	1997

Additional Experience:

Yannaccone Associates, Inc., Chester, New Jersey *Environmental Investigator*	1995-1997
Washington Township Health Department, Long Valley, New Jersey *Environmental Health Specialist*	1987-1995

Publications:

Burke DJ, Kretzer AM, Rygiewicz PT & Topa MA (2006) Soil bacterial diversity in a loblolly pine plantation: Influence of ectomycorrhizas and fertilization. *FEMS Microbiology Ecology*, **57:** 409-419.

Burke DJ, Martin KJ, Rygiewicz PT & Topa MA (2006) Relative abundance of ectomycorrhizas in a managed loblolly pine (*Pinus taeda* L.) genetics plantation as determined through terminal restriction fragment length polymorphism (TRFLP) profiles. *Canadian Journal of Botany,* **84(6):** 924-932.

Burke DJ, Martin KJ, Rygiewicz PT & Topa MA (2005) Ectomycorrhizal fungi identification in single and pooled root samples: terminal restriction fragment length polymorphism (TRFLP) and morphotyping compared. *Soil Biology and Biochemistry*, **37:** 1683-1694.

Burke DJ, Hamerlynck EP & Hahn D (2003) Interactions between the salt marsh grass *Spartina patens*, arbuscular mycorrhizal fungi and sediment bacteria during the growing season. *Soil Biology and Biochemistry*, **35:** 501-511.

Weis P, Windham L, Burke DJ & Weis JS (2002) Release into the environment of metals by two vascular salt marsh plants. *Marine Environmental Research*, **54:** 1-5.

Burke DJ, Hamerlynck EP & Hahn D (2002) Effect of AM mycorrhizae on soil microbial populations and associated plant performance of the salt marsh grass *Spartina patens*. *Plant and Soil,* **239**: 141-154.

Burke DJ, Hamerlynck EP & Hahn D (2002) Interactions among plant species and microorganisms in salt marsh sediments. *Applied and Environmental Microbiology*, **68:**1157-1164.

Burke DJ, Weis JS & Weis P (2000) Release of metals by the leaves of the salt marsh grasses *Spartina alterniflora* and *Phragmites australis*. *Estuarine, Coastal and Shelf Science*, **51:** 153-159.

Burke DJ (1997) Donor wetland soil promotes re-vegetation in wetland trials. *Restoration and Management Notes*, **15:** 168–172.

Non-Peer Reviewed Publications

Burke DJ (2001) The interaction between the grass *Spartina patens*, N_2-fixing bacteria and arbuscular mycorrhizae in a Northeastern salt marsh. Ph.D. Thesis, Rutgers University, Newark, New Jersey.

Burke DJ & Hahn D (2000) The effect of mycorrhizae on nitrogen-fixing bacteria associated with the salt marsh grass *Spartina patens*. Section II: 28 pp. In W.C. Nieder and J.R. Waldman (Eds.). Final Reports of the Tibor T. Polgar Fellowship Program, 1999. Hudson River Foundation, New York.

Burke DJ (1996) The use of soil seed banks in the establishment of vegetation at wetland mitigation sites. M.S. Thesis, East Stroudsburg University, East Stroudsburg, Pennsylvania.

Presentations:

Burke DJ (2006) Mycorrhizas in the middle: plant/soil effects of arbuscular mycorrhizas in salt marsh ecosystems. Department of Biology, Case Western Reserve University, Cleveland, Ohio, January 18 (Invited talk).

Burke DJ (2006) Effect of Mycorrhizas on Soil Bacteria in a Salt Marsh Ecosystem. Smithsonian Research Institute, Edgewood Maryland, January 9 (Invited Talk).

Topa MA, Burke DJ & Chapin C (2005) Biocontrol of purple loosestrife by the leaf-feeding beetle *Galerucella*: Potential cumulative effects on whole-plant carbon budgets. Ninetieth annual meeting of the Ecological Society of America, Montreal, Quebec, August 7-11 (Poster).

Burke DJ, Topa MA & Kretzer AM (2005) Bacterial diversity in soil associated with ectomycorrhizal root tips of loblolly pine: effects of long-term fertilization. Ninetieth annual meeting of the Ecological Society of America, Montreal, Quebec, August 7-11.

Burke DJ (2004) Mycorrhizas in the middle: plant/soil effects of arbuscular mycorrhizas in salt marsh ecosystems. Department of Environmental and Forest Biology, State University of New York, Syracuse, New York, December 2 (Invited talk).

Burke DJ (2004) Whole community analysis of soil microbes through fluorescent *insitu* hybridization (FISH). USDA, Appalachian Farming Systems Research Center, West Virginia, October 28 (Invited talk).

Burke DJ (2004) Molecular techniques in soil ecology: exploring microbial community structure and function. USDA, Appalachian Farming Systems Research Center, West Virginia, October 28 (Invited talk).

Burke DJ, Martin KJ, Rygiewicz PT & Topa MA (2004) Ectomycorrhizal diversity in a loblolly pine (*Pinus taeda* L.) genetics plantation: Influence of host origin and fertilization. Eighty-ninth annual meeting of the Ecological Society of America, Portland, Oregon, August 1-6.

Burke DJ (2003) Application of molecular tools for the examination of soil microbial communities. College of Agriculture and Life Sciences, University of Vermont, Burlington, Vermont, November 7 (Invited talk).

Burke DJ, Martin KJ, Rygiewicz PT & Topa MA (2003) Utilization of TRFLP to characterize mixed ectomycorrhizal fungal communities. Third International Symposium on Dynamics and Physiological Processes of Woody Roots, University of Western Australia, Perth, Australia, September 29-October 3 (Poster).

Burke DJ, Martin KJ, Rygiewicz PT & Topa MA (2003) Ectomycorrhizal community composition on loblolly pine ecotypes as determined by terminal fragment length comparisons. Mini-Symposium on Root-Soil Interactions, Center for Root-Soil Research, Cornell University, Ithaca, New York, April 24.

Burke DJ (2003) Interactions between plants and microorganisms in salt marsh sediments. Department of Biological Sciences Seminar Series, University of West Florida, Pensacola, Florida, February 21 (Invited talk).

Burke DJ (2002) Influence of marsh plant species and seasonality on community composition of soil microbes. Boyce Thompson Institute for Plant Research at Cornell University, Ithaca, New York, August 12.

Burke DJ (2002) Influence of marsh plant species and seasonality on community composition of soil microbes. Department of Biological Sciences Seminar Series, Mary Washington College, Fredericksburg, Virginia, February 7 (Invited talk).

Burke DJ (2002) Influence of marsh plant species and seasonality on community composition of soil microbes. Department of Biological Sciences Seminar Series, Hofstra University, Hempstead, New York, February 1 (Invited talk).

Burke DJ, Weis JS & Weis P (1999) Excretion of metals by the salt marsh grasses *Spartina alterniflora* and *Phragmites australis*. Fifteenth Biennial International Conference of the Estuarine Research Federation, New Orleans, September 25-30.

Burke DJ & Hahn D (1999) Nitrogen nutrition of marsh grasses. Polgar Fellowship Studies Presentation of Findings, Institute of Ecosystems Studies, Millbrook, New York, August 31.

Burke DJ, Weis JS & Weis P (1999) Excretion of metals by the salt marsh grasses *Spartina alterniflora* and *Phragmites australis*. Thirty-Second Middle Atlantic Regional Meeting of the American Chemical Society, Fairleigh Dickinson University, Madison, New Jersey, May 17-19.

Burke DJ, Weis JS & Weis P (1999) Excretion of metals by the salt marsh grasses *Spartina alterniflora* and *Phragmites australis.* Department of Biological Sciences Ecology and Evolution Seminar Series, Rutgers University, Newark, New Jersey, March 24.

Burke DJ (1998) Occurrence of AM in salt marsh plants of the Hackensack Meadowlands. Department of Biological Sciences Ecology and Evolution Seminar Series, Rutgers University, Newark, New Jersey, November 24.

Teaching Experience

Lecturer

Field Ecology (Fall 2001)

Plant Ecology (Spring 1997)

Teaching Assistantships

Plant Physiology Laboratory (Fall 1999, Fall 2000)

General Biology (Spring 1999)

Field Ecology (Spring 1998)

Biology of Seed Plants Laboratory (Fall 1997, Fall 1998)

Professional Activities:

Awards

1999	Tibor T. Polgar Fellowship, Hudson River Foundation ($3500)
1998	Sydney S. Greenfield Botany Fellowship, Rutgers University ($1000)

Professional Societies

Ecological Society of America	1998-2007
Botanical Society of America	1998-2001; 2006-2007
American Society of Microbiologists	2006-2007

Additional Activities

Participant rhizosphere/mycorrhizal discussion group Boyce Thompson Institute, Cornell University and SUNY-ESF during the 2002-2004 academic years.

Referee for the journals *Applied Soil Ecology*, *Journal of Phytopathology, Microbial Ecology, Plant and Soil* and *Wetlands.*

Laboratory mentor for 6 undergraduate research assistants.

New Jersey Nature Conservancy Volunteer in the Following Capacity:

Preserve Monitor, Sussex Swamp Preserve, Newton, New Jersey, 1999-2001.
Invasive Species Monitor, Arctic Meadows Preserve, Stillwater, New Jersey, 1996-1998.