



# Seminar

Plant Pathology & Microbiology

**PLP**  
TEXAS A&M UNIVERSITY

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Wednesday  
February 3, 2016

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Peterson 113  
4:00 PM—5:00 PM

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## Dr. Marnie Rout

Assistant Professor,  
Department of Biology  
*University of Texas at Tyler*

### *The Role of the Plant Microbiome in Invasion Ecology and the Relevance to Ecosystem Health*

As an Ecosystem Ecologist, I am interested in the continuum of pathogenic - mutualistic relationships between plants and microbial symbionts. My research is among the forefront in Plant Science quantifying impacts of the microbiome on plant trait expression, genetics, community composition, and ecosystem functions. Using an interdisciplinary approach integrating plant-microbial ecology and physiology with bioinformatics, I am using microbiome-focused research to understand disturbances and disruptions to plant productivity. I am currently applying this knowledge to investigate a variety of ecological disturbances, including plant invasions, prescribed fire, and land use changes associated with urbanization, agricultural practices, and threats to food security resulting from global climate shifts. Currently funded projects include: 1) uncovering the molecular mechanisms utilized by the microbiome to regulate nutrient acquisition and invasive performance in Johnsongrass (*Sorghum halepense*), with emphasis on conditions leading to plant stress (USDA-NIFA-AFRI collaboration); 2) water, soil and plant monitoring, restoration, and educational outreach related to the Cypress River Basin and Caddo Lake Watershed (USFWS/Collins Academy Education Outreach collaboration).

*Hosted by Dr. Clint Magill*



*Coffee & Cookies*

*3:45 - 4:00 Room 121*