

## Analytical Methods for Detecting Toxins Produced by *Trichodesmium thiebautii*

Bydairk, Lisa M, Chemistry Department, The Citadel, Charleston, SC  
Schock, Tracey, Medical University of South Carolina, Hollings Marine Laboratory,  
Fort Johnson, Charleston, SC  
Dr. Moeller, Peter, Medical University of South Carolina, Hollings Marine Laboratory,  
Fort Johnson, Charleston, SC  
Dr. Villareal, Tracy, Marine Sciences Institute, University of Texas, The University of  
Texas At Austin Marine Science Institute, Port Aransas, TX  
Dr. Crawford, Kevin D, Chemistry Department, The Citadel, Charleston, SC

Blooms of the marine cyanobacteria, *Trichodesmium thiebautii*, result in toxin(s) that can be harmful to both humans and wildlife. *Trichodesmium* is one of the largest nitrogen-fixers in the marine environment and is thought to be a major source of new bioavailable nitrogen in the ocean. The toxins associated with the blooms have been linked to a number of health effects, the most well known being an illness called Tamandare fever. Respiratory irritation, high fever, muscular pain, and a rash are common symptoms associated with exposure to the toxin. The appearance of these symptoms corresponds with the appearance of *Trichodesmium* blooms in the area. Recently we have made significant progress in the isolation and identification of chemicals associated with blooms that cause toxicity to mammalian cell lines. The ability to rapidly determine the presence of this toxin in marine waters can be beneficial to limiting the human health effects. We will report on our efforts to develop an efficient and reliable method of detection of the *Trichodesmium thiebautii* associated toxins.