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## **The Role of Epi- and Endophytic Nitrogen Fixation in Natural and Anthropogenic Landscapes**

Guest Editor:

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Deadline for manuscript  
submissions:

**closed (31 December 2018)**

### **Message from the Guest Editor**

Dear Colleagues

Plants are generally classified as “N<sub>2</sub>-fixing”, based entirely on the ability to form root nodules. However, many plant species are not nodule-forming, yet effectively colonize N-poor sediments. Over the last few decades, studies have demonstrated that N<sub>2</sub>-fixing endophytic bacteria can be found throughout the plant body of some plant species and epiphytic bacteria have been found to bind tightly to leaves, rhizoids and root surfaces of plants. While some have argued that N<sub>2</sub>-fixation must be limited to microaerobic root nodules to prevent inactivation of the nitrogenase enzyme by oxygen, multiple lines of evidence demonstrate that N-fixation is possible in and on plants. N<sub>2</sub>-fixing bacteria evolved multiple methods to protect nitrogenase from oxygen, and microaerobic environments conducive to N-fixation do exist within plant tissues.

This Special Issue of Nitrogen will host current research, knowledge and thinking on epi- and endophytic N<sub>2</sub> fixation and serve as a spring board for research development in the world of N<sub>2</sub> fixation.

Prof. Thomas H. DeLuca  
*Guest Editor*



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# **Special** Issue



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## **Message from the Editor-in-Chief**

*Nitrogen*, the element that is intimately associated with essentially all processes on Earth, is the broad focus of a new online, open access journal. The intention of this publication is to offer a venue for research papers, reviews, short notes, and communications that have as a nexus this critical element.

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