

## Luke McCormack



LISLE, Ill. (Dec. 7, 2023)— The Morton Arboretum Tree Root Biologist [Luke McCormack](#), Ph.D. leads the Arboretum’s Root Biology Lab which seeks to understand how functional root traits vary among plant species, populations of the same species, and even within individuals over time, then applies this information to assess and predict the success of trees in multiple environments.

As roots and their activities below ground are often the least understood components of the integrated plant system, gaining a better understanding of these enigmatic organs has tremendous capacity to improve the appreciation and management of trees. The Arboretum’s Root Lab uses modeling and field-based research to interpret patterns of trait diversity and plant responses to their environment across spatial scales leveraging tools from multiple disciplines including plant physiology, plant and microbial ecology, and whole-ecosystem science.

The guiding vision is to fundamentally change how belowground systems are perceived in both basic and applied research communities, highlighting the importance of root and rhizosphere processes to the overall health, resilience, and productivity of forest ecosystems.

Learning more about roots and their underground activities, which are not well understood, will greatly enhance the appreciation and management of trees, McCormack noted.

Luke has been recognized as one of the most cited and influential researchers worldwide by global information services provider Clarivate’s esteemed 2023 list of “[Highly Cited Researchers](#).”

More information: <https://mortonarb.org/science/staff/luke-mccormack/#research-interests>