



Danielle Julie Carrier

Danielle Julie Carrier is the recipient of the 2023 James R. and Karen A. Gilley Academic Leadership award for her outstanding leadership as department head at the University of Tennessee-Knoxville along with her strong leadership in ASABE and other professional communities.

Carrier is professor and head of biosystems engineering and soil science at the University of Tennessee (UTK). She supports the missions of teaching, research, and extension. Whenever possible, she is looking at opportunities to position biosystems engineering, construction science and soil science disciplines such that they can be leveraged, resulting in augmented strengths.

In addition to departmental administration, Carrier has a vast research career, focused on biomass. Initially, she worked on harvesting and storage of medicinal plants for maximization of phytochemical content. This program evolved into the extraction of co-products from bioenergy-destined crops, specifically inserting a hot water extraction step prior to the classical pretreatment step. This could serve to obtain a slip stream that could contain added-value co-products, adding value to the biorefinery. She was particularly interested by pressurized hot water and by dilute acid extractions, such that these unit operations could be coupled to existing biochemical biorefinery processing technology or pulp mill operations. Biomass separation and fractionation has always been an important preoccupation, as often lead compounds cannot be purchased as standards but need to be purified and analyzed. Her laboratory has worked on a variety

of biomass including but not limited to milk thistle, poplar, pine, switchgrass, and sweetgum.

An 18-year member of ASABE, Carrier has served in many leadership roles in the Processing Systems Technical Community committees and the Educational Outreach and Professional Department Heads committee. From 2019 to 2022, Carrier served as a trustee on the Society Board of Trustees, where she continues to serve in the student engagement and retention task force. She was part of a team that developed the Student Rally Leadership Networking Program, which is aimed at linking student rallies from all ASABE Districts. This program secured ASABE Initiative Funds and through this funding supported student undergraduate travel and participation in the Houston and Omaha AIM meetings.

Over her career, she has published nearly 100 peer-reviewed journal articles. She has served on more than 20 scientific panels such as the USDA, National Science Foundation and Department of Education. She also received the University of Arkansas, College of Engineering, John L. Imhoff Outstanding Research Award in 2015.