



First Name: **Danielle Julie** Last Name: **Carrier**  
Title: **Professor and Department Head**  
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### Education:

PhD: **Chemical Engineering McGill University, Canada 1992** MS: **Chemical Engineering McGill University, Canada 1986** BS: **Agricultural Engineering McGill University, Canada 1984**

### General Areas of Expertise:

Biomass deconstruction into cellulose, hemicellulose and lignin. Separation. Pretreatment. Extraction of natural products

### Short Bio:

Julie has been faculty since 1996, first at the University of Saskatchewan (Saskatoon, Canada), from 2000 to 2016 at the University of Arkansas (Fayetteville, Arkansas) in the Department of Biological and Agricultural Engineering and is currently Department Head in the Department of Biosystems Engineering and Soil Science at the University of Tennessee (Knoxville, Tennessee). She received her BSc in Agricultural Engineering in 1984, her M Eng in Chemical Engineering in 1986 and her PhD in Chemical Engineering in 1992, all from McGill University in Canada.

Julie's research program is focused on the extraction of carbohydrates and phytochemicals from biomass as well as the production of bio-based products. She is associate editor of ACS Sustainable Chemistry and Engineering. She is the author of more than 87 peer-reviewed publications, one patent and four book chapters. She has trained more than twenty graduate students.

### Five Representative Publications:

1. Kandhola G, Rajan K, Labbe N, Chmely S, Heringer N, Kim JW, Hood H and Carrier DJ. (2017). "Beneficial effects of Trametes versicolor pretreatment on saccharification and lignin enrichment of organosolv-pretreated pinewood." RSC Advances 7: 45652-45661.
2. Rajan K, Nelson A, Adams J and Carrier DJ. (2017). "Phytochemical recovery for valorization of loblolly pine and sweetgum bark residues." ACS Sustainable Chemistry and Engineering 5: 4258-4266.
3. Sharma S, Adams J, Sakul R, Martin E, Ricke S, Gibson K, and Carrier DJ. (2016). "Loblolly pine Pinus taeda L. of essential oil yields affected by environmental and physiological changes." Journal of Sustainable Forestry 35 <http://dx.doi.org/10.1080/10549811.2016.1192046>
4. Djoleu A and Carrier DJ. (2016). "Effects of dilute acid pretreatment parameters on sugar production during biochemical conversion of switchgrass using a full factorial design." ACS Sustainable Chemistry and Engineering 4: 4124-4130.
5. Rajan K and Carrier DJ. (2016). "Insights into exo-cellulase inhibition by the hot water hydrolyzates of rice straw." ACS Sustainable Chemistry and Engineering 4:3627-3633.

### FEWSTERN Symposium 2017 Presentation Title and Abstract:

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