Citation 2022 – Dave J. Gifford Award in Tree Biology

Dr. Annie DesRochers

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Dr. DesRochers is a Professor and holder of the NSERC Industrial Research Chair in Silviculture and Wood Production at the Université du Québec en Abitibi-Témiscamingue. She is among the top tree physiologists in Canada, and is recognized for her outstanding and highly original research contributions in tree biology. Dr. DesRochers’ research is a unique blend of pure and applied forest science. While her varied research interests include studies on root respiration, the ecology of photosynthesis, dendrochronology and carbon sequestration, two major themes have been tree nutrition and, most uniquely, direct root connections. Natural root grafts allow trees to share significant quantities of nutrients, water and photosynthates, and this phenomenon has been observed in nearly 200 species of both angiosperms and gymnosperms. As shown by Dr. DesRochers’ team, the redistribution of resources among connected trees can enhance growth and delay tree mortality. Root connections can contribute to long-term maintenance of clonal diversity in aspen stands but, on the down side, may be major transmission routes for forest disease organisms. These important direct connections among trees have been almost entirely ignored by tree physiologists, yet have a significant influence on tree growth. Dr. DesRochers’ innovative work has highlighted this important phenomenon.

Dr. DesRochers has developed a well-funded research program supported by a variety of industry, provincial and federal sources. She has published 63 articles in international journals, 49 of which have her own trainees listed as first author. Many of these co-authors are undergraduate students, demonstrating Dr. DesRochers’ strong record of research leadership and mentorship. To date, these publications have received 2269 citations. Dr. DesRochers has trained 7 postdoctoral fellows, 34 PhD and MSc students, and 53 undergraduates. In addition, Dr. DesRochers has an outstanding record of professional service, serving on the executive of several Canadian scientific societies, co-organizing many scientific conferences and acting as Communicating Editor and reviewer for international journals.

Dr. DesRochers is an inspiring research leader in the field of tree biology who shows exceptional originality and independence of thought.