Lakehead researcher receives $420,000 research award

Dr. Han Chen leads national research team to predict future forest environmental conditions

Thunderbay, Ontario . . . . Principal Investigator Dr. Han Chen will receive $420,000 over three years to improve the scientific understanding of forest successional pathways and structural development to enable forest managers to better forecast future forest composition and structure. This research is applicable to both natural and managed forests in Manitoba, Ontario and Québec.

“This work is important,” says Chen, “because forest composition and structure is the core to ongoing forest sustainability as they dictate timber supply, forest productivity, carbon dynamics and biodiversity.” Current predictive forest succession models are open to some criticism because they are based on limited empirical data and make a number of assumptions that have not been critically tested nor validated. Scientists and policy makers agree that success in dealing with ongoing environmental change rests with our ability to predict and project future forest conditions.

Dr. Chen’s research program will in three central-eastern locations examine forest succession to quantify the ways in which forest cover types evolve over time, determine rates of changes in species composition so that forest composition can be projected from individual stands within spatially explicit forest management models, and define and classify stand structure types using both live tree and coarse wood debris and quantify successional pathways of stand structure.

For post-disturbance succession, the project will quantify post fire and post logging stand composition for the purpose of forest management planning, examine the similarity of stand structural attributes including live tree structure and coarse woody debris in relation to logging and fire.

Dr. Chen’s proposal went through an extensive scientific peer-review process. His project received significant support from the Governments of Alberta, Manitoba and Québec as well as forward-thinking forest industries including Abitibi-Consolidated Inc., Bowater Inc., Louisiana-Pacific Canada Ltd., and Tembec Inc. The project was also supported by the Forest Ecosystem Science Cooperative and the Lake Abitibi Model Forest.

Dr. Chen will be supported by Dr. Norm Kenkel, University of Manitoba, Drs. Alain Leduc and Dan Kneeshaw, Université du Québec à Montréal and Dr. Yves Bergeron, Université du Québec en Abitibi-Témiscamingue along with six other research collaborators.

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