



## Events

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## CCT Colloquium Series

**TOPSAW: A Training and OPTimization System for SAWing Logs into Lumber****Sun Joseph Chang, Professor**

School of Renewable Natural Resources, LSU

Johnston Hall 338

October 27, 2006 - 03:00 pm

**Abstract:**

TOPSAW is a training and optimization system for sawing logs into lumber. The TOPSAW optimization system first scans sawlogs with an X-ray CT scanner to acquire scanning images containing both external profile and internal defects. The virtual log is then reconstructed with the scanning images. With the reconstructed virtual log, the sawing optimization system determine the optimal sawing sequence to maximize the value of lumber produced by repeatedly generating the cut face, identifying and boxing the defects on the cut-face, and grading the cut faces. The log is then sent to the headrig and sawn according to the optimal sawing sequence. The results so far in the various aspect of log scanning sawing optimization will be discussed. Given the fact that there are thousands of possible initial solutions, as a time critical problem, the challenges of finding an optimal sawing solution in less than one minute will also be addressed while other technical challenges will also be mentioned. Finally, the implication of TOPSAW on the profitability of the individual company, the global competitiveness of the sawmill industry as a whole, the resource conservation of the nation, and consumers will be discussed.

**Speaker's Bio:**

Sun Chang is currently Professor of Forestry in the LSU School of Renewable Natural Resources. He received his B.S. in Forestry - National Chung Hsing University, Taiwan, 1972; M.F.S. in Forestry - Harvard University, 1975; and Ph.D. in Forestry - University of Wisconsin - Madison, 1979. Dr. Chang's research interests include Forest Management, Forest Economics, and Log Sawing Optimization. His current research focus is timber management under uncertainty - a theoretical analysis.

**Refreshments will be served.****This lecture has a reception.**