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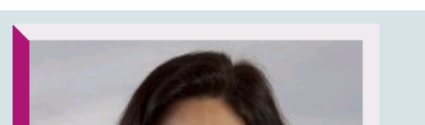
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Research Keywords

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Taraneh Sowlati

Associate Professor

Research Interests: [engineering](#), [modelling](#), [wood products](#)

[Contact Info](#)

[Teaching and Research](#)

[Publications](#)

[Department of Wood Science](#)

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Areas of research include:

- Supply chain management
- Mathematical modeling and optimization
- Multi-criteria decision making
- Simulation
- Life cycle assessment

Projects

Optimization of forest biomass supply chain with uncertainty

NSERC

Economic, social and environmental optimization of forest biomass value chain

NSERC Value Chain Optimization Network

Evaluating partnerships in forest products supply chains

NSERC Value Chain Optimization Network

Unit Associations

[Centre for Advanced Wood Processing \(CAWP\)](#)

[Department of Wood Science](#)

Professional Affiliations

Association of Professional Engineers and Geoscientists of BC APEGBC
Canadian Operational Research Society CORS
Institute for Operations Research and Management Sciences INFORMS
Institute of Industrial Engineers IIE

Awards

CORS (Canadian Operational Research Society) Service Award 2012
UBC Killam Teaching Prize 2011-12, Faculty of Forestry Nominee: Runner up
Award for outstanding application of operational research – Second prize – Canadian Operational Research Society
2006
Tuition Award to attend 2006

Current Graduate Students

Claudia Cambero, PhD
Economic and environmental optimization of forest biomass value chain

Mahdi Mobini, PhD Candidate
Design and analysis of wood pellet supply chain

Mehdi Piltan, PhD Student
Partnership evaluation in the forest industry

Nazanin Shabani, PhD Candidate
Stochastic optimization of a forest biomass power plant

Diana Siller, Masters

Shaghaygh Akhatari, PhD

Current Courses

Summer 2013
No WOOD course(s) were found for S2013 term. Summer 2013
No WOOD course(s) were found for S2013 term.

Selected Publications

Akhtari, S., Sowlati, T., Day, K. (2014). **Optimal flow of forest biomass to a district heating system in Williams Lake, BC.** International Journal of Energy Research

Akhtari S., Sowlati T., Day, K. (2014). **Economic feasibility of utilizing forest biomass in district energy systems: A review** *Renewable and Sustainable Energy Reviews*, 33: 117 – 127

Akhtari S., Sowlati, T., Day, K. (2014). **The effects of variations in supply accessibility and amount on economics of using regional forest biomass for generating district heat** *Energy-The International Journal*, 67: 631-640

Piltan, M. Sowlati, T. (2014). **A review of partnership studies in the forest products value chains – with a focus on developed countries (US, Canada and Western Europe)** *Forest Products Journal*, In Press

Ebadian, M., Sowlati, T., Sokhansanj, S., Stumborg, M., Townley-Smith, L. (2014). **Development of an integrated tactical and operational planning model for supply of feedstock to a commercial-scale bioethanol plant** *Biofuels, Bioproducts and Biorefining*, Article first published online: 4 OCT 2013, DOI: 10.1002/bbb.1446

Mobini, M., Meyers, J., Trippe, F., Sowlati, T., Froehling, M., Schultmann, F (2014). **Assessing the integration of torrefaction into the wood pellet production** *Journal of Cleaner Production*

Camero, C., Sowlati, T. (2014). **Assessment and optimization of forest biomass supply chains from economic, environmental and social perspectives – A review of literature** *Renewable and Sustainable Energy Reviews*

Camero, C., Sowlati, T., Marinescu, M., Roser, D. (2014). **Strategic optimization of a forest residue to bioenergy and biofuels supply chain** *International Journal of Energy Research*

Sowlati, T. (2014). **Current and future role of information technology in the global forest sector. In The Global Forest Sector: Changes, Practices, and Prospects. E. Hansen, R. Panwar, and R. Vlosky (eds.)**. CRC press

Mobini, M., Sowlati, T., Sokhansanj, S. (2013). **A simulation model for the design and analysis of wood pellet supply chain** *Applied Energy*, 111: 1239-1249.

Shabani, N., Akhtari, S., Sowlati, T. (2013). **Value chain optimization of forest biomass for bioenergy production: A review** *Renewable and Sustainable Energy Reviews*, 23: 299-311.

Hewitt, R., Sowlati, T., Paradi, J.C. (2012). **Analysis of Available Software Products in the North American Cabinet Industry** *International Journal of Management Science*, 5(3):281-296.

Ebadian, M., Sowlati, T., Sokhansanj, S., Stumborg, M., Townley-Smith, L. (2012). **Modeling and analyzing storage systems in agricultural biomass supply chain for cellulosic ethanol production** *Applied Energy*, 102: 840-849.

Hewitt, R., Sowlati, T., Paradi, J.C. (2012). **Evaluation of strategic software investment for the Canadian cabinet**

Shabani, N., Sowlati, T., (2012). **A mixed integer non-linear programming model for tactical value chain optimization of a wood biomass power plant.** Applied Energy, 104: 353-361.

Lindroos, O., Nilsson, B., Sowlati, T. (2011). **Costs, CO2 emissions and energy balances of applying Nordic slash recovery methods in British Columbia** Western Journal of Applied Forestry, 26(1):30-36.

Ghafghazi, S., Sowlati, T., Sokhansanj, S., Bi, X., Melin, S. (2011). **Life cycle assessment of base-load heat sources for district heating system options** International Journal of Life Cycle Assessment, 16(3): 212-223.

Ghafghazi, S., Sowlati, T., Sokhansanj, Bi, X., S., Melin, S. (2011). **Particulate matter emissions from combustion of wood in district heating applications** Renewable and Sustainable Energy Reviews, 15(1): 3019-3028

Hewitt, R., Sowlati, T., Paradi, J.C (2011). **Information Technology Adoption in United States and Canadian Forest Industries** Forest Products Journal, 61(2):161-169.

Mobini, M., Sowlati, T., Sokhansanj, S. (2011). **Forest biomass supply logistics for a power plant using the discrete-event simulation approach** Applied Energy. 2011. 88 (4): 1241-1250.

Ebadian, M., Sowlati, T., Sokhansanj, S., Stumborg, M., Townley-Smith, L. (2011). **A new simulation model for multi-agricultural biomass logistics system in bioenergy production** Biosystems Engineering, 110 (3):280-290.

Tumuluru, J.S., Sokhansanj, S., Lim, C.J., Bi, X., Lau, A., Melin, S., Sowlati, T., Oveisi, E. (2010). **Quality of wood pellets produced in British Columbia for export** Applied Engineering in Agriculture, 26(6):1013-1020.

Stephen, J., Sokhansanj, S., Bi, X., Sowlati, T., Kloeck, T., Twonly-Smith, L., Stumborg, M.A. (2010). **The impact of agricultural residue yield range on the delivered cost to a biorefinery in the Peace River Region of Alberta** Biosystems Engineering, 105(3): 298-305.

Stephen, J., Sokhansanj, S., Bi, X., Sowlati, T., Kloeck, T., Townley-Smith, L., Stumborg, M.A. (2010). **Analysis of biomass feedstock availability and variability for the Peace River region of Alberta, Canada** Biosystems Engineering, 105(1): 103-111.

Sowlati, T., Assadi, P., Paradi, J.C. (2010). **Developing a mathematical programming model for sensitivity analysis in analytic hierarchy process** International Journal of Mathematics in Operations Research, 2(3): 290-301.

Ghafghazi, S., Sowlati, T., Sokhansanj, S., Melin, S. (2010). **Techno-economic analysis of renewable energy source options for a district heating project** International Journal of Energy Research, 34: 1109-1120.

Ghafghazi, S., Sowlati, T., Sokhansanj, S., Melin, S. (2010). **A multi-criteria approach for evaluating district heating system options** Applied Energy, 87(4):1134-1140.

Assadi, P., Sowlati, T. (2009). **Design and manufacturing software selection in the wood industry using Analytic Hierarchy Process** International Journal of Business Innovation and Research, 3(2): 182-198.

Assadi, P., Sowlati, T., Paradi, J.C. (2009). **Multi-criteria evaluation of design and manufacturing software packages considering the interdependencies between criteria: The ANP approach** International Journal of Information and Decision Sciences, 1(4): 397-410.

Chau, J., Sowlati, T., Sokhansanj, S., Preto, F., Melin, S., Bi, T. (2009). **Economic sensitivity of wood biomass utilization for greenhouse heating application** Applied Energy, 86(5): 616-621.

Mahmoudi, M., Sowlati, T., Sokhansanj, S. (2009). **The Logistics of Supplying Biomass from a Mountain Pine Beetle Infested Forest to a Power Plant in British Columbia** Scandinavian Journal of Forest Research, 24(1): 76-86.

Chau, J., Sowlati, T., Sokhansanj, S., Preto, F., Melin, S., Bi, X. (2009). **Optimizing the mixture of wood biomass for greenhouse heating** International Journal of Energy Research, 33(1): 274-284.

Chau, J., Sowlati, T., Sokhansanj, S., Preto, F., Melin, S., Bi, X. (2009). **Techno-economic analysis of wood biomass biolers for the greenhouse industry** Applied Energy, 86 (3): 364-371

Salazar, J., Sowlati, T. (2008). **A review on life cycle assessment of windows** Forest Products Journal, 59 (10): 91-96.

Vahid, S., Sowlati, T. (2008). **Productivity changes of the wood product manufacturing sector in the US** Applied Mathematical Sciences, 2 (17): 799-816

Salazar, J., Sowlati, T. (2008). **Life cycle analysis of windows for the residential market in North America** Scandinavian Journal of Forest Research, 23(2): 121-132

Aydinel, M., Sowlati, T., Cerda, X., Cope, E., Gerschman, M. (2008). **Optimization of production allocation and transportation of customer orders for a leading forst products company** Mathematical and Computer Modelling, 48(7/8): 1158-1169.

Vahid, S., Sowlati, T. (2007). **Efficiency analysis of the Canadian wood product manufacturing sub-sectors– A DEA approach** Forest Products Journal, 57(1/2): 71-77.

Salehirad, N., Sowlati, T. (2007). **Dynamic efficiency analysis of the primary wood producers in British Columbia** *Mathematical and Computer Modelling*, 45 (9/10): 1179-1188

Sowlati, T. (2007). **The use of nonparametric statistical tests in defining the number of periods to include in an intertemporal DEA analysis** *International Transactions in Operational Research*, 14: 203-215

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Salazar, J., Sowlati, T. (2006). **Modeling the life cycle processes of aluminum clad wood windows** *Technical Session Proceedings – Wood Biomass Utilization: Challenges and Opportunities*. Forest Products Society 60th International Convention.

Salehirad, N., Sowlati, T. (2005). **Performance Analysis of Primary Wood Producers in British Columbia using DEA** *Canadian Journal of Forest Research*. 35(2): 285-294

Marinescu, M., Sowlati, T., Maness, T. (2005). **The development of a timber allocation model using Data Envelopment Analysis** *Canadian Journal of Forest Research*. 35(10): 2304-2315.

Sowlati, T. (2005). **Efficiency Studies in Forestry using Data Envelopment Analysis** *Forest Products Journal*. 55 (1): 49-57

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Sowlati, T. (2003). **Compression data to compete: Is Data Envelopment the answer?** *Woodworking Magazine*, Volume 17, Issue 2, page 31

Sowlati, T. (2002). **Efficiency Improvement in the Canadian Wood Industry** *Branch Lines*. 13(1): 2

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