



John Sessions, PhD, PE
University Distinguished Professor of Forestry and
Strachan Chair of Forest Operations Management
Oregon State University

email: john.sessions@oregonstate.edu

Updated 14-April 2017

DEGREES

PhD, Forest Management, Oregon State University, 1979

MS, Forest Engineering, University of Washington, 1971

MS, Civil Engineering, California State University, 1968

BS, Civil Engineering, University of California, 1966

TEACHING EXPERIENCE

Oregon State University, 1983-present, resource scheduling, transportation planning, harvest planning, logging mechanics

Oregon State University, Forest Engineering Institute, 1975-1978, transportation planning, engineering economics, logging mechanics

RESEARCH EXPERIENCE

Oregon State University, 1983-present

Pacific Northwest Forest and Range Experiment Station, forest engineering, 1970-1971

INDUSTRIAL EXPERIENCE

- Harvesting Division Manager, JARI Florestal, Brazil 1981-1983
- Systems Analyst, JARI Florestal, Brazil 1980

GOVERNMENT EXPERIENCE

- Staff Economist, Division of Timber Management, Wash. D.C., USDA Forest Service, 1979- 1980
- Harvesting Specialist and Director of Logging System Training, USDA Forest Service, 1974- 1978 Director of Transportation Planning, Rocky Mountain Region, USDA Forest Service, 1973

INTERNATIONAL CONSULTANT

- *South and Central America:* Colombia, 2013, 2005, 1995; Argentina, 2006, 2005, 1998, 1996; Brazil, 1996, 1989, 1980-83; Chile, 2014-15, 1995, 1994, 1992, 1990; Costa Rica, 1984; Jamaica, 1972-73
- *Africa:* South Africa, 2003, 2002, 1998, 1993, 1991; Zimbabwe, 1986
- *Europe:* Rome, Italy (FAO), 1985.
- *Asia:* Russia (Far East), 1996; Malaysia, 2009, 1996, 1995; Bhutan, 1973
- *North America:* British Columbia, 2004, Labrador, 1975, Newfoundland, 1975
- *Australasia:* New Zealand, 1986, Australia 2007

FIELD OF SPECIALIZATION

Transportation Planning, Harvest Scheduling, Forest Economics

PROFESSIONAL SOCIETIES

- Society of American Foresters
- Forest Products Research Society
- Council on Forest Engineering
- Sigma Xi
- Xi Sigma Pi
- Phi Kappa Phi (University Chapter President 1992-1993, Board 1992-Present)

REGISTERED PROFESSIONAL ENGINEER

- Registered Civil Engineer, Washington, No. 12063
- Registered Civil Engineer, Colorado, No. 10831 (inactive)

PROFESSIONAL RECOGNITION

- 2016 Invited Speaker, Protecting the Logging Workforce: Development of Innovative Logging Techniques for a Safer Working Environment. San Diego, CA
- 2016 Invited Keynote Speaker, Sustainable Supply Chains for the Timber Economy of the Future Conference, Austimber2016, Victoria, Australia
- 2015 Invited Speaker, Pacific Logging Congress, World Overview of Log Truck Scheduling and Opportunities for the Pacific Northwest, Hawaii
- 2015 International Forest Engineering Achievement Award, Council on Forest Engr.
- 2015 Earle Wilcox National Forester of the Year, Intertribal Timber Council
- 2015 Invited Speaker for Associated Oregon Loggers, Optimizing Pole Recovery, Eugene, OR
- 2014 Top Ten Contributing Scholars in Combinatorial Optimization of Bioenergy Supply Chain Problems *in* Metaheuristic Algorithms Applied to Bioenergy Supply Chain Problems, *Energies* 2014(7):7640-7672.
- 2014 Invited Reader for the Wallenberg International Forestry Prize
- 2013 Society of American Foresters National Award in Forest Science.
- 2013 Invited Speaker for Olympic Logging Conference, Bioenergy, Victoria, BC
- 2013-present. Chair for State of Oregon Forest Engineering Licensing Examination. Appointed by the Oregon State Board of Engineers and Surveyors.
- 2013 Invited Speaker for Oregon Logging Conference, Jet Fuel from Woody Biomass, Eugene, OR.

- 2011-2016 Leadership Team, Northwest Advanced Renewables Alliance (NARA)
- 2011-13 Co-Chair, National Indian Forest Management Assessment Team (IFMAT III)
- 2010 High Climber Award, Road Maintenance Modeling, Douglas Timber Operators
- 2010 Oregon State University nominee to the U.S. Professor of the Year competition, Carnegie Foundation for the Advancement of Teaching.
- 2010 Invited Speaker, Pre- and Post-Wildfire Forest Management for Ecological Restoration and Fire Resiliency, Sacramento
- 2009, 2008, 2007 Invited Speaker, Public Land Wildfire Policy, Ecological Policy, OSU F&W
- 2009 Invited Speaker, Annual Meeting of National Forest Counties, Reno
- 2008. Appointed Editorial Board, International Journal of Forestry Research
- 2008. Appointed Strachan Chair of Forest Operations Management
- 2008 Invited Speaker, O&C Counties Annual Meeting
- 2007 Member, BLM Road Committee Working Group
- 2006 Recognition for Outstanding Service, Oregon Department of Forestry
- 2006-2009 Member, Interagency Science Team - National Fire Program Analysis Review
- 2006 Invited Professor, Northeast Forestry University, Harbin, China
- 2006 Invited Keynote Speaker, 29th Annual Meeting of Council on Forest Engineering
- 2006 Invited Keynote Speaker, 9th Annual Meeting of National Forest Coalition of Counties and Schools, Reno
- 2006 Invited Participant, BLM Western Oregon Plan Revision Process
- 2005, 1994, 1993, 1989, 1986 Aufderheide Award for Outstanding Teaching, Oregon State University, College of Forestry
- 2005 One of three founding faculty advisors of OSU Chapter of Engineers Without Borders (2005-2008). Sessions/Boston Forest Engineering, Ken Williamson, Civil Engineering. Beth McNair, FE/CE, first student president.
- 2005 Invited Speaker, National Meeting, Association of Consulting Foresters
- 2004, 2001, 1993, 1990 Dean's Award for Outstanding Achievement
- 2004 Keynote Speaker, O&C Counties Annual Meeting
- 2004 Invited Participant, Klamath Country Institute for Journalism and Natural Resources
- 2004 Invited Testimony, Subcommittee on Forests and Forest Health hearing on Restoration after Catastrophic Events, Washington, DC.
- 2004 Invited Speaker, Oregon Society of Certified Public Accountants, Eugene
- 2004 Invited Speaker, Siskiyou Wildlands Project, Southern Oregon University
- 2004 Invited Speaker, Annual Meeting of Western Forest Economists, Wemme
- 2004 Invited Speaker, Annual Meeting of National Forest Counties, Reno
- 2004 Invited Speaker, Portland State University, Executive Training,, Medford
- 2004 Invited Speaker, National Public Radio, Annenberg Policy Center, Philadelphia
- 2004 Invited Speaker, Cascadia Wildlands Project, Oregon Natural Resources Council Audubon Society, Harris Hall, Eugene, Oregon.
- 2003 Keynote Speaker, O & C Counties Annual Meeting
- 2003 Invited Speaker, Pacific Logging Congress

- 2003 Invited Speaker, Southern Oregon Timber Industry Association Annual Meeting
- 2003 Invited Author for Harvesting in the Tropics, Springer-Verlag Publishers
- 2003 Invited Author for Roads in the Tropics, Springer-Verlag Publishers
- 2003 Invited Author for Roading and Transport Operations, Encyclopedia of Forest Science, Elsevier Science
- 2003 Invited Speaker and Panelist, Pacific Logging Congress
- 2003 Invited Testimony for Healthy Forests Initiative, Bend, OR, Field Hearings
- 2003 Member, National Panel Convened by Department of Interior to Review Monitoring Guidance for the Healthy Forest Initiative (HFI) Categorical Exclusions under NEPA
- 2002 Invited Lecturer, Winter 2002 Environmental Studies Lecture Series, University of Oregon.
- 2001-3 Member, Washington DNR Technical Committee, 2001/2003 for Sustainable Harvest Calculation
- 2001-3 Co-Chair, National Indian Forest Management Assessment Team (IFMAT II)
- 2001. Appointed Faye and Lucille Stewart Professor of Forest Engineering
- 2000. Member, Strategic Planning Team, College of Forestry, Oregon State University
- 2000. Member, Advisory Team, 2000/2001 Forestry Program Funding and Position Analysis. Bureau of Indian Affairs, US Dept. of Interior.
- 2000. Lecturer, Yale Forest Forum Series on Current Issues in Commercial Forestry, School of Forestry and Environmental Studies, Yale University.
- 1999-2006. Invited participant in ODF Forest Planning Process.
- 1999, Appointed University Distinguished Professor of Forestry, Oregon State University
- 1998, Technical Advisor, Integrated Assessment of Willamette Watershed Alternative Futures, University of Oregon.
- 1998, 1999, Technical Reviewer for USDA Small Business Innovation Research (SBIR).
- 1998. Lecturer. F.K. Weyerhaeuser Lecture Series on Current Issues in Commercial Forestry, School of Forestry and Environment Studies, Yale University.
- 1996-Present, Technical Reviewer for Consortium of Plant Biotechnology Research (CPBR)
- 1996-2000, Marcus Wallenberg Prize International Selection Committee
- 1996, Associate Editor for Forest Engineering, Forest Science
- 1996-Present, External Assessor, Faculty of Forestry, University of Agriculture, Malaysia
- 1995, Top Prof Teaching Recognition Award, Oregon State University
- 1995-1996, Chair, State Scientific Panel to Evaluate O&C Lands Transfer
- 1995-Present, Member, Umpqua River Basin Exchange Pilot Project
- 1994-95, Member, Coquille Forest Scientific Advisory Team
- 1994-1998, Member, Coastal Landscape Analysis and Modeling Study (CLAMS) Team
- 1994-1996, Member, IFMAT Implementation Team
- 1994-Present, Forest Science (Silva Fennica) Editorial Board, Finland
- 1994-1996, Member, Boise Cascade Science Advisory Team
- 1993-1995, Member, Sierra Nevada Ecosystem Science Team
- 1993-1994, Member, Washington State Landscape Management Project
- 1992-Present, Logging Engineering Examiner for State of Oregon

- 1992-1993, Vice-Chair, National Indian Forest Management Assessment Team (IFMAT)
- 1991, Member, Forest Engineering Program Review Team, University of British Columbia
- 1990-1995, Chairman, Forest Operations in Mountainous Terrain S3.06, International Union of Forestry Research Organizations (IUFRO)
- 1989-Present, Adjunct Professor, Department of Forest Resources, Oregon State University
- 1988-1990, 1996-2006, Deputy, Forest Operations in Mountainous Terrain S3.06 International Union of Forestry Research Organizations (IUFRO)
- 1986-1988, Chair, Mountain Logging Working Group S3.06-02 International Union of Forestry Research Organizations (IUFRO)
- 1985-1988, Secretary, Systems Analysis Working Group, Society of American Foresters, Certificate of Merit, Most Improved Working Group (1986)
- 1985-1996, Associate Editor, Western Journal of Applied Forestry, Society of American Foresters
- 1980, Superior Service Award for Analysis of Alternative National Timber Harvest Programs, USDA Forest Service

Publications in Refereed Journals and Peer-Reviewed Publications:

Sessions, J., B. Leshchinsky, W. Chung, K. Boston, and J. Wimer. 2017. Theoretical Stability and Traction of Steep Slope Tethered Feller-Bunchers. *Forest Science* 63(2):192-200.

Berry, M. and J. Sessions. 2017. The Economics of Biomass Logistics and Conversion Facility Mobility: An Oregon Case Study. In review. *Applied Engineering in Agriculture*.

Berry, M. and J. Sessions. 2017. A Forest-to-Product Biomass Supply Chain in the Pacific Northwest, USA: A multi-product approach. In review. *Applied Engineering in Agriculture*.

Chen, C., F. Pierobon, R. Zamora, I. Ganguly, J. Sessions, and I. Eastin. 2017. Modeling the processing and transportation logistics of forest residues using life cycle assessment. *Journal of Forestry* 115(2)86-94.

Belart, F., B. Leshchinsky, and J. Sessions. 2017. Finite element analysis to predict in-forest stored harvest residue moisture content. In press. *Forest Science*. Available online Feb 24, 2017 at <http://dx.doi.org/10.5849/FS-2016-064R1>.

Ghaffariyan, M. R., M. Brown, M. Acuna, J. Sessions, T. Gallagher, M. Kühmaier, R. Spinelli, R. Visser, G. Devlin, L. Eliasson, J. Laitila, R. Laina, M. Wide, and G. Engell. 2017. An international review of the most productive and cost effective biomass recovery technologies and supply chains. *J. of Renewable Energy Reviews* 74(2017) 145-158. Available online Feb 20, 2017. <http://dx.doi.org/10.1016/j.rser.2017.02.014>

Sessions, J., J. Gordon, P. Rigdon, D. Motanic, and V. Corrao. 2017. Indian Forests and Forestry: Can they play a larger role in Sustainable Forest Management? In press. *Journal of Forestry*. Available on line Feb 3, 2017. doi: <https://doi.org/10.5849/jof.2016-083R1>

Zamora, R, K. Boston, J. Long, and J. Sessions. 2016. Economic Estimation of the Available Biomass Following Logging Operations in Western Oregon and Washington. Submitted to Canadian J. of For. Res.

Mirkouei, A., K. Haapala, J. Sessions, and G. Murthy. 2016. Evolutionary Multi-criteria Decision Making Framework for Enhancing Sustainable Benefits Across the Mixed Biomass-based Energy Supply Chains. Submitted to Environmental Science & Technology.

Zamora, R, J. Sessions, and G. Marrs. 2016 Economic implications of grinding, transporting and pretreating fresh versus aged forest residues for biofuel production. Available on line October 24, 2016. Can. J. For. Res. 47: 269–276 (2017) dx.doi.org/10.1139/cjfr-2016-022

Belart, F., J. Sessions, B. Leshchinsky, and G. Murphy. 2016. Economic implications of moisture content and logging system in forest harvest residue delivery for energy production: a case study. In press. Canadian J. of For. Res.

Belart, F., J. Sessions, and G. Murphy. 2016. Seasonal changes in live branch moisture content of three forest species in the Pacific Northwest, USA. In review. Forest Science.

Leshchinsky. B., J. Sessions, J. Wimer and M. Clausen. 2016. Designing Mobile Anchors to Yield: A Tension Relief System for Tail Anchoring. Croatia J. of Forest Engineering 37(2):269-278.

Mirkouei, A. K.R. Haapala, G.S. Murthy, and J. Sessions. 2016. Reducing Greenhouse Gas Emissions For Sustainable Bio-Oil Production Using A Mixed Supply Chain. Proceedings of the 2016 ASME IDETC/CIE: 21st Design for Manufacturing and the Life Cycle Conference (DFMLC), Paper DETC2015-59262, August 21-25, Charlotte, North Carolina.

Marrs, G., R. Zamora and J. Sessions. 2016. Forest biomass cost sensitivity to grinding parameters for bio-jet fuel production. J. of Renewable Energy 99(2016):1082-1091.

Zamora-Cristales, R. and J. Sessions. 2016. A collection model for forest biomass residues. Croatian J. of Forest Engineering. 3(2):287-296.

Mirkouei, A., K.R. Haapala, G.S. Murthy, and J. Sessions. 2016. Evolutionary Optimization of Bioenergy Supply Chain Cost with Uncertain Forest Biomass Quality and Availability. Proceedings of the IIE/ISERC, May 21-24, Anaheim, California.

Mirkouei, A., P. Mirzaie, K. Haapala, J. Sessions and G. Murthy. 2016. Reducing the Cost and Environmental Impact of Integrated Fixed and Mobile Bio-Oil Refinery Supply Chains. J. of Cleaner Energy 113(2016):495-507. On line at doi:10.1016/j.jclepro.2015.11023

Mirkouei, A., K. Haapala, J. Sessions, and G. Murthy. 2016. A Review and Future Directions in Techno-Economic Modeling and Optimization of Upstream Forest Biomass to Bio-oil Supply Chains. In press. Renewable and Sustainable Energy Reviews 67(2017)15–35.

Wing, M.G., J. Burnett, J. Brungardt, D. Dobler, V. Cordell, and J. Sessions. 2016. Search and Rescue Operations with an Unmanned Helicopter. *International Journal of Remote Sensing Applications*, 2016, 6(0), 65-75. doi: 10.14355/ijrsa.2016.06.007.

Chung, W., H. Han, J. Sessions, H. Chung, J. Chung, and S. Lee. 2015. Using a Sequence of Heuristic Optimizations to Integrate Forest Resources Management and Transportation Planning. In review. *Forest Science* (in revision).

Leshchinsky, B. J. Sessions, and J. Wimer. 2015. Analytical design charts for mobile anchor systems. In press. *Int. J. of For. Engr.* On line April 8, 2015. DOI: 10.1080/14942119.2015.1023014

Temesgen H., K. Poudel, A. Gray, D. Affleck, and J. Sessions. 2015. Challenges and Opportunities in Estimating Above Ground Forest Biomass. *Scandinavian J. of For. Res.* 30(4):326-335.

Zhu, J.Y., M. Chandra, R. Gleisner, R. Reiner, W. Gilles, J. Gao, G. Marrs, D. Anderson, and J. Sessions. 2015. Case studies on sugar production from underutilized woody biomass using sulfite chemistry. *Bioenergy* 14(9):577-582.

Zhu, J.Y., M. Chandra, F. Gu, R. Gleisner, R. Reiner, J. Sessions, G. Marrs, J. Gao, and D. Anderson. 2015. Using sulfite chemistry for robust bioconversion of Douglas-fir forest residue to bioethanol at high titer and lignosulfonate: A pilot-scale evaluation. *Bioresource Technology* 179(2015):390-397.

Zamora, R., J. Sessions, D. Smith and G. Marrs. 2015. Effect of grinder configuration on forest biomass bulk density, particle size distribution and fuel consumption. *Biomass and Bioenergy* (81):44-54.

Lauer, C., J. McCaulou, J. Sessions, and S. Capalbo. 2015. Biomass Supply Curves for Western Juniper in Central Oregon, USA, Under Alternative Business Model and Policy Assumptions. *J. of Forest Policy and Economics* (59):75-82. On line at doi: 10.1016/j.forpol.2015.06.002

Simwanda, M., J. Sessions, K. Boston, and M. Wing. 2015. Modeling biomass transport on single lane forest roads. *Forest Science* (61):763-773.

Zamora, R. and J. Sessions. 2015. Are double trailers cost effective for transporting forest biomass on steep terrain? *California Agriculture Journal* 69(3):76-81. doi: 10.3733/ca.v069n03p177.

Zamora-Cristales, R., J. Sessions, K. Boston and G. Murphy 2015. Economic Optimization of Forest Biomass Processing and Transport. *Forest Science* 61(2):220-234. Published on line 2014 <http://dx.doi.org/10.5849/forsci.13-158>

Gülci, N., A. Akay, O. Erdaş, M. Wing and J. Sessions. 2015. Planning Optimum Logging Operations through Precision Forestry Approaches, *European Journal of Forest Engineering*. 1(2):56-60.

- Beck, S., M. Olsen, J. Sessions, and M. Wing. 2015. Automated extraction of forest road network and geometry from aerial LiDAR. *European J. of Forest Engineering* 1(1):21-33.
- Ghaffariyan, M. R., J. Sessions, and M. Brown. 2014. Collecting harvest residues in pine plantations using a mobile chipper in Victoria (Australia). *Silva Balcanica* 15(2):81-95.
- Clark, J., J. Sessions, and R. Zamora. 2014. Optimizing Knife Change Times for Forest Biomass Chipping Operations. In review. *Forest Products J.*
- Zamora, R., J. Sessions, D. Smith, and G. Marrs. 2014. Effect of high speed blowing on the bulk density of ground residues. *Forest Prod. J.* 64(7/8):290-299.
- Wing, M. G., J. Burnett, and J. Sessions. 2014. Remote sensing and unmanned aerial system technology for monitoring and quantifying forest fire impacts. *Int. Journal of Remote Sensing Applications* 4(1):18-35.
- Zamora, R., P. Adams, and J. Sessions. 2014. Ground-based thinning on steep slopes in Western Oregon: Soil exposure and strength effects. *Forest Science* 60(5):1014-1020. Available online February 6, 2014. <http://dx.doi.org/10.5849/forsci.12-525>.
- Akay, A., M. G. Wing, and J. Sessions. 2014. Estimating sediment reduction cost for low-volume forest roads using a LiDAR-Derived High-Resolution DEM. *Baltic J. of Road and Bridge Engineering* 9(1):52-57.
- Wing, M.G., J. Burnett, S. Johnson, A. Akay and J. Sessions. 2014. A low-cost unmanned aerial system for remote sensing of forested landscapes. *International Journal of Remote Sensing Applications* 4(3):113-120. DOI: [10.14355/ijrsa.2014.0403.01](https://doi.org/10.14355/ijrsa.2014.0403.01)
- Lyons, K., J. Sessions, and J. Wimer. 2014. The adequacy of falling object protection design criteria for feller bunchers. *Forest Science* 60(4):757-763. Published online October 2013 (<http://dx.doi.org/10.5849/forsci.12-110>).
- Akay, A., K. Aruga, P. Bettinger and J. Sessions. 2013. Using optimization techniques in designing forest roads and road networks. *International Journal of Bartin Faculty of Forestry* 15(1-2): 49-62. Also online at http://bof.bartın.edu.tr/journal/index_dosyalar/page0033.html
- Ghaffariyan, M. R., J. Sessions, and M. Brown. 2013. Roadside chipping in a first thinning operation for radiata pine in South Australia. *Croatian J. of Forest Engineering* 34(1):91-101.
- Smith, D., J. Sessions, K. Tuers, D. Way and J. Travers. 2013. Characteristics of Forest Derived Woody Biomass Collected and Processed in Oregon. *Forest Products J.* 62(7/8):520-527.
- Sessions, J., K. Tuers, K. Boston, R. Zamora and R. Anderson. 2013. Pricing Forest Biomass for Power Generation. *Western J. of Applied Forestry* 28(2):51-56.

Wing, M.G., M. Craven, J. Sessions, and J. Wimer. 2013. LiDAR-derived DEM and raw height comparisons along profile corridor gradients within a forest. *Journal of Geographic Information System* 5(2):109-116.

Leu, Shao-Yuan, R. Gleisner, R., J.Y. Zhu, J. Sessions, and G. Marrs. 2013. Robust Enzymatic Saccharification of a Douglas-fir forest harvest residue by SPORL. *Biomass and Bioenergy* 59(2013):393-401.

Zamora, R., J. Sessions, G. Murphy and K. Boston. 2013. Economic impact of truck-machine interference in forest biomass recovery operations on steep terrain. *Forest Products Journal* 63(56):162-173. Published online October 2013. (doi: 10.13073/FPJ-D-13-00031). *Forest Products J.* 63(5/6):162-173.

Zamora-Cristales, R., K. Boston, J. Sessions, and G. Murphy. 2013. Stochastic simulation and optimization of mobile chipping economics in processing and transport of forest biomass from residues. *Silva Fennica* 47(5):1-21. <http://dx.doi.org/10.14214/sf.937>

Hayati, E., B. Majnounian, E. Abdi, J. Sessions, and M. Makhdom. 2013. An expert-based approach in forest road network planning by combining Delphi and Spatial Multi-Criteria Evaluation. *Environmental Modeling and Assessment* 185(2):1767-1776.

Wing, M. G., J. Burnett, and J. Sessions. 2013. Eyes in the sky: Remote sensing technology development using small unmanned aircraft systems. *J. of Forestry* 111(5):341-347.

Beck, S. and J. Sessions. 2013. Forest road access decisions for woods chip trailers using Ant Colony Optimization and breakeven analysis. *Croatian J. of Forest Engineering* 34(2)201-215.

Pilkerton, S.J., J. Sessions, and L.D. Kellogg. 2013. Development of efficient cutting patterns to maximize value with a log-allocation constraint. *Int. J. of Forest Engineering*, 24(1):42-52.

Ghaffariyan, M. R., J. Sessions, and M. Brown. 2012. Evaluating productivity, cost, chip quality and biomass recovery for a mobile chipper in Australian roadside chipping operations. *J. of Forest Science* 58(12): 530–535, Czech Academy of Agricultural Sciences.

Ghaffariyan, M. R., J. Sessions, and M. Brown. 2012. Machine productivity and residual harvesting residues associated with a cut-to-length harvest system in southern Tasmania. *Southern Forests* 74(4): 229–235

Lyons, K., J. Sessions, and J. Wimer. 2012. Effect of undercut style and post hinge behavior in tree felling. *Forest Science* 58(6):547-558.

Akay, A., M. G. Wing, and J. Sessions. 2012. Estimating structural properties of riparian forests with airborne LiDAR data. *International J. of Remote Sensing* 33(22):7010-7023.

- Zhang, C., J. Y. Zhu, R. Gleisner, and J. Sessions. 2012. Fractionation of forest residues of Douglas-fir for fermentable sugar production by SPORL Pretreatment. *J. of Bioenergy Res.* DOI 10.1007/s12155-012-9213-3, Volume 5, pp. 978-988.
- Chung, W., D. Dykstra, S. O'Brien, R. Abt, and J. Sessions. 2012. User's Guide to SNAP for ArcGIS. USDA Forest Service, PNW Station, Gen. Tech. Report. PNW-GTR-847.
- Clark, J., J. Sessions, K. Boston, and C. Schmidt. 2011. Sizing CHP Plants in a Biomass Supply Chain for Timber Harvest Residues. Submitted to *Biomass and Bioenergy*.
- Ghaffariyan, M. R., M. Brown, M. Acuna, J. Sessions, and M. Kuehmaier. 2011. Biomass harvesting in Eucalyptus plantations in Western Australia. *Southern Forests: a journal of Forest Science* 73:3-4, 149-154.
- Ghaffariyan, M. R. and J. Sessions. 2011. Error impact of regression models on forest road spacing. *Silva Balcanica* 12(1)97-111.
- Simwanda, M., M. G. Wing, and J. Sessions. 2011. Evaluating global positioning system accuracy for forest biomass transportation tracking within varying forest canopy. *Western J. of Applied Forestry* 26(4):165-173
- Wing, M.G., A. Eklund, and J. Sessions. 2010. Applying LiDAR technology for tree measurements in burned landscapes. *International Journal of Wildland Fire* 19:104-114.
- Sessions, J., J. Wimer, F. Costales, and M. G. Wing. 2010. Engineering Considerations in Road Assessment for Biomass Operations in Steep Terrain. *Western J. of Applied Forestry* 25(3):144-153.
- Ghaffarian, M. R., K. Stampfer, and J. Sessions. 2010. Road Network Optimization using heuristic and linear programming. *Journal of Forest Science* 56(3)137-145. Institute of Agricultural Economic and Information, Czech Republic.
- Thompson, M., and J. Sessions. 2010. Exploring Environmental and Economic Tradeoffs Associated with Aggregate Recycling from Decommissioned Forest Roads. *Environmental Modeling and Assessment*. 14 pages, 2010. doi:10.1007/s10666-010-9220-8.
- Akay, A., J. Sessions, H. Serin, M. Pak, and N. Yenilmez. 2010. Applying Optimum Bucking Method in Producing Taurus Fir (*Abies cilicica*) Logs in Mediterranean Region of Turkey. *Baltic Forestry*. 16(2): 273-279.
- Thompson, M., J. Sessions, K. Boston, A. Skaugset, and D. Tomberlin. 2010. Forest Road Erosion Control using Multiobjective Optimization. *Journal of the American Water Resources Association*, 12 pages, doi: 10.1111/j.1752-1688.200.00443.

Thompson, M., J. Hamman, and J. Sessions. 2009. Selection and penalty strategies for genetic algorithms designed to solve spatial forest planning problems. *International Journal of Forestry Research*, Vol. 2009, Article ID 527392, 14 pages, 2009. doi:10.1155/2009/527392.

Sessions, J., J. Wimer, and K. Boston. 2009. Hauling longer logs: Opportunities and Issues. *Western J. of App. Forestry* 24(3):157-162. *Volume 24, Number 3, J*

Bettinger, P., J. Sessions, and K. Boston. 2009. A review of the status and use of validation procedures for heuristics used in forest planning. *International Journal of Mathematical and Computational Forestry & Natural-Resource Sciences*. 1(1): 26-37.

Abdi, E., B. Majnounian, A. Darvishsefat, Z. Mashayekhi and J. Sessions. 2009. A GIS-MCE based model for forest road planning. *Journal of Forest Science* 55(4):171-176, Institute of Agricultural Economic and Information, Czech Republic.

Boston, K., J. Sessions, R. Rose, and W. Hoskins. 2009. Incorporating Regeneration Effort as a Decision Variable in Tactical Harvest Scheduling. *Western J. of Applied Forestry* 24(2):61-66.

Ghaffarian, M. R., K. Stampfer, and J. Sessions. 2009. Comparison of three methods to determine optimal road spacing for forwarder-type logging operations. *Journal of Forest Science* 55(9):423-431, Institute of Agricultural Economic and Information, Czech Republic.

Ghaffarian, M. R., K. Stampfer, and J. Sessions. 2009. Production equations for tower yarders in Austria. *International Journal of Forest Engineering*, 20(1):17-21.

Thompson, M., D. Adams, and J. Sessions. 2009. Radiative forcing and the optimal rotation age. *Ecological Economics* 68(2009):2713-2720.

Ghaffarian, M. R., K. Stampfer, and J. Sessions. 2009. Optimal road spacing of cable yarding using a tower yarder in Southern Austria. *European J. of For. Res.* Published On-line 29 December, 2009. DOI 10.1007/s10342-009-0346-7. 8 p.

Eklund, A., M. Wing, and J. Sessions. 2009. Evaluating economic and wildlife habitat considerations for snag retention policies in burned landscapes. *Western J. of Applied Forestry* 24(2):67-75.

Jordan, L., R. Souter, and J. Sessions. 2008. Simulated Annealing for Optimizing Continuous Functions. *Canadian J. of Forest Research*. (in review)

Akay, A.E., H.H. Acar, and J. Sessions. 2008. An Analysis of Utilizing Helicopter Logging in Turkish Forestry. *Journal of Applied Sciences*. 8(21): 3910-3916

Thompson, M. and J. Sessions. 2008. Optimal Policies for Aggregate Recovery and Reuse on Forest Roads. *Journal of Environmental Management* 42(2):297-309.

Thompson, M., H. Stander, and J. Sessions. 2008. GuyLinePC: An Interactive Guyline Tension Analysis Program for Guyed Logging Towers. *Western J. of Applied Forestry* 23(3):133-141.

Wing, M.G., A. Eklund, J. Sessions, and R. Karsky. 2008. Horizontal measurement performance of five mapping-grade GPS receiver configurations in several forested settings. *Western J. of Applied Forestry* 23(3):166-171.

Ghaffarian, M. R., K. Stampfer, and J. Sessions. 2007. Forwarding productivity in Southern Austria. *Croatian J. of Forest Engineering* 28(2):169-176.

Thompson, M., K. Boston, J. Arthur, and J. Sessions. 2007. Intelligent deployment of forest road graders. *Int. J. of Forest Engineering* 18(2):15-23.

Dodson, E., W. Chung, K. Mills, R. Nall, J. Sessions, and G. Zartman. 2007. Planning to determine low-volume road standards, long term needs, and environmental risks and tradeoffs. 9th International Low Volume Roads Conference, Transportation Research Board. *Transportation Research Record* 1989. Vol. 1:11-19.

Graetz, D., J. Sessions, and S. Garman. 2007. Using stand-level optimization to reduce crown fire hazard. *Journal of Landscape and Urban Planning*. 80(3):312-319.

Wing, M., K. Edwardsen, M. McNair, E. Miles, K. Wilson, and J. Sessions. 2007. Developing a sustainable water delivery system in rural El Salvador. *Sustainability: Science, Practice, & Policy* 3(1):72-78.

Aruga, K., W. Chung, A. Akay, J. Sessions, and E. Miyata. 2007. Incorporating soil surface erosion prediction into forest road alignment optimization. *International J. of Forest Engineering* 18(1):24-32.

Wing, M.G. and J. Sessions. 2007. Geospatial technology education. *Journal of Forestry* 105(4):173-178.

Akay, A.E., J. Sessions, and K. Aruga. 2007. Designing a forwarder operation considering tolerable soil disturbance and minimum total cost. *Journal of Terramechanics*. 44 (2): 187-195.

Boston, K. and J. Sessions. 2006. Development of a spatial harvest scheduling system to promote the conservation between indigenous and exotic forests. *International Forestry Review* 8(3):297-305.

Newton, M., S. Fitzgerald, R. Rose, P. Adams, S. Tesch, J. Sessions, T. Atzet, R. Powers, and C. Skinner. 2006. *Technical Comment on "Post-Wildfire Logging Hinders Regeneration and Increases Fire Risk"*, *Science* 313: 615a.

Akay, A., J. Sessions, P. Bettinger, R. Toupin, and A. Eklund. 2006. Evaluating the Salvage Value of Fire-killed Timber by Helicopter – Effects of Time Since Fire and Yarding Distance, *Western Journal of Applied Forestry* 21(2) 102-107.

Coulter, E., J. Coakley, and J. Sessions. 2006. The Analytic Hierarchy Process: A Tutorial for Use in Prioritizing Forest Road Investments to Minimize Environmental Effects. *International Journal of Forest Engineering* 17(2):51-70.

Epstein, R., A. Weintraub, J.B. Sessions, J. Sessions, P. Sapunar, E. Neto, F. Bustamante, and H. Musante. 2006. A combinatorial heuristic approach for solving real size machinery location and road design problems in forestry planning. *Operations Research* 54(6):1017-1027.

Sessions, J., K. Boston, R. Thoreson, and K. Mills. 2006. Optimal policies for managing rock resources on temporary forest roads. *Western Journal of Applied Forestry* 21(4):207-216.

Aruga, K., J. Sessions, and E. Miyata. 2006. Forest road design with soil sediment evaluation using a high resolution DEM. *Journal of Forest Research* 10(6):471-479.

Sessions J. and K. Boston. 2006. Optimization of road spacing for log length shovel logging on gentle terrain. *International Journal of Forest Engineering* 17(1):67-75.

Coulter, E., J. Sessions, and M. Wing. 2006. Scheduling forest road maintenance using the analytic hierarchy process and heuristics. *Silva Fennica* 40(1):143-160.

Aruga, K., T. Tasaka, J. Sessions, and E. Miyata. 2006. Tabu search optimization of forest road alignments combined with shortest paths and cubic splines. *Croatian Journal of Forest Engineering* 27(1)37-47.

Sessions, J., K. Boston, R. Hill, and R. Stewart. 2005. Log sorting location decisions under uncertainty. *Forest Products Journal* 55(12)53-57.

Aruga, K., J. Sessions, A. Akay, and W. Chung. 2005. Simultaneous optimization of horizontal and vertical alignments of forest roads using Tabu Search, *Journal of Forest Engineering* 16(2):137-151.

Akay, A., K. Boston, and J. Sessions. 2005. The evolution of computer-aided road design systems, *Journal of Forest Engineering* 16(2):73-79.

Akay, A. and J. Sessions. 2005. Applying the Decision Support System, TRACER, to Forest Road Design, *Western Journal of Applied Forestry*, 20 (3): 184-191.

Bettinger, P., D. Graetz, and J. Sessions. 2005. A density-dependent stand-level optimization approach for deriving management prescriptions for interior northwest (USA) landscapes. *Forest Ecology and Management* 217:171-186

Aruga, K., J. Sessions, and A. Akay. 2005. Heuristic planning techniques applied to forest road profiles. *Japan Journal of Forest Research* 10(2):83-92.

Aruga, K., J. Sessions, and A. Akay. 2005. Application of an airborne laser scanner to forest road design with accurate earthwork volumes. *Japan Journal of Forest Research* 10(2):113-123.

- Chung, W., J. Sessions, and H.R. Heinimann. 2004. An application of a heuristic network algorithm to cable logging layout design. *Journal of Forest Engineering* 15(1): 11-24.
- Akay, A., O. Erdas, and J. Sessions. 2004. Determining Productivity of Mechanized Harvesting Machines, *Journal of Applied Sciences*, 4 (1): 100-105.
- Sessions, J., P. Bettinger, R. Buckman, M. Newton, and J. Hamann. 2004. Hastening the return of complex forests following fire: The consequences of delay. *Journal of Forestry* 102(3):38-45.
- Chung, W. and J. Sessions. 2004. Uphill and downhill gradeability of log trucks with short log trailers. *Western Journal of Applied Forestry* 19(2):88-94.
- Bettinger, P., D. Graetz, A. Ager, and J. Sessions. 2004. The SAFED forest landscape planning model. Chapter 4. In *Methods for Integrated Modeling of Landscape Change*. Interior Northwest Landscape Analysis System (INLAS), J. Hayes, A. Ager, and R. J. Barbour (eds). Gen. Tech. Rep. PNW-GTR-610, USDA Forest Service, Pacific NW Research Sta., Portland, OR, p. 41-63.
- Marshall, H., K. Boston, and J. Sessions. 2003. Harvest scheduling with aggregation constraints: A threshold acceptance approach. *In Proceedings: Second Precision Forestry Conference*. June 15-17, 2003. University of Washington, Seattle, Washington. 12 p.
- Bettinger, P. and J. Sessions. 2003. Spatial planning: To Adopt or Not to Adopt. *Journal of Forestry* 101(2):24-29.
- Cornell, J., J. Sessions, and J. J. Garland. 2002. Planning aerial forest management operations. Submitted to *Western Journal of Applied Forestry*. 20 pp.
- Hobbs, S., T. Spies, and J. Sessions. 2002. Effects of vegetation management: Taking a landscape and multi-resource perspective. P. 240-242 *In* H. Frochet, C. Collet, and P. Balandier (compilers). *Popular Summaries from the Fourth International Conference on Forest Vegetation Management*. Nancy, France. June 17-21. Institut National de la Recherche Agronomique, Champenoux, France.
- Nalle, D., J. Arthur, C. Montgomery and J. Sessions. 2002. Economic and social impacts of an existing reserve network on future augmentation. *Environmental Modeling and Assessment* Vol(7):99-105.
- Bettinger, P., D. Graetz, K. Boston, J. Sessions, and W. Chung. 2002. Eight heuristic planning techniques applied to three increasingly difficult wildlife planning problems. *Silva Fennica* 36(2):561-584.
- Nalle, D., J. Arthur, and J. Sessions. 2002. Designing compact and contiguous reserve networks using a hybrid heuristic algorithm. *Forest Science* 48(1):59-68.
- Sessions, J., D. Johnson, J. Ross, and B. Sharer. 2000. The Blodgett plan, a non-reserve based landscape approach to developing mature forest habitat. *Journal of Forestry*. 98(12):29-33.

- Ahmad, Saharudin, J. D. Brodie, and J. Sessions. 1999. Analysis of two alternative harvesting systems in peninsular Malaysia: sensitivity analysis of costs, logging damage, and buffers. *Journal of Tropical Forest Science*. 11(4):809-821.
- Brown, Cameron and J. Sessions. 1999. Variable tire pressures for tropical forests? A synthesis of concepts and applications. *Journal of Tropical Forest Science* 11(2):380-400.
- Bettinger, P., K. Boston, and J. Sessions. 1999. Combinatorial optimization of elk habitat effectiveness and timber harvest volume. *Ecological Modelling and Assessment*. 4:143-153.
- Bettinger, P., K. Boston, and J. Sessions. 1999. Intensifying a heuristic forest harvest scheduling search procedure with 2-opt decision choices. *Canadian Journal of Forest Research* (29):1784-1792.
- Sessions, J., K. Norman Johnson, J. Franklin, and J. Gabriel. 1999. Achieving sustainable forest structures on fire-prone landscapes while pursuing multiple goals. In *spatial Modeling of Forest Landscapes*, Chapter 9. Eds. David Mladenoff and William Baker. Cambridge University Press.
- Carey, A., B. Lippke, and J. Sessions. 1999. Intentional Ecosystem Management: Managing Forests for Biodiversity. *Journal of Sustainable Forestry* Vol. 9(3/4) 83-125.
- Bettinger, P., K. N. Johnson, and J. Sessions. 1998. Improving aquatic habitat conditions over time while producing wood products: an examination of options. *Journal of American Water Resources Association (JAWRA)* 34(4)1-17.
- Bettinger, P., K.N. Johnson, and J. Sessions. 1998. Evaluating the association between alternative measures of cumulative watershed effects on a forested watershed in eastern Oregon. *Western Journal of Applied Forestry*. 13(1):15-22.
- Bettinger, P., J. Sessions, and K. N. Johnson. 1998. Ensuring the compatibility of aquatic habitat and commodity production goals in eastern Oregon with a TABU search procedure. *Forest Science* 44(1):96-112.
- Johnson, K.N., J. Sessions, J. Franklin and J. Gabriel. 1998. Integrating wildfire into strategic planning for Sierra Nevada Forests. *Journal of Forestry* 96(1)42-49.
- Bettinger, P., J. Sessions and K. Boston. 1997. Using TABU search to schedule timber harvests subject to spatial wildlife goals for big game. *Ecological Modelling* 94(1997)111-123.
- Gordon, J., J. Franklin, K.N. Johnson, D. Patton, J. Sedell, J. Sessions, and E. Williston. 1997. Redefining the government's role, an assessment of Indian forests and forest management in the United States: The IFMAT Report. *Journal of Forestry* 95(11)10-14.
- Johnson, K.N., J. Sessions, and J. Franklin. 1996. Initial results from simulation of alternative forest management strategies for two national forests of the Sierra Nevada. In *proceedings:*

Sierra Nevada Ecosystem Project: Final report to Congress. Davis: University of California, Centers for Water and Wildland Resources. 55 p.

Sessions, J., K.N. Johnson, B. Bahro, D. Sapsis, and J. Gabriel. 1996. Methodology for simulating forest growth, fire effects, timber harvest, and watershed disturbance under different management regimes. *In: Proceedings: Sierra Nevada Ecosystem Project: Final report to Congress.* Davis: University of California, Centers for Water and Wildland Resources. 60 p.

Cousar, P., J. Sessions, and K.N. Johnson. 1996. Individual stand projection under different goals to support policy analysis for the Sierra Nevada Ecosystem Project. *In: Proceedings: Sierra Nevada Ecosystem Project: Final report to Congress.* Davis: University of California, Centers for Water and Wildland Resources. 55 p.

Menning, K.M., D.C. Erman, K.N. Johnson, and J. Sessions. 1996. Modeling aquatic and riparian systems, assessing cumulative watershed effects, and limiting watershed disturbance. *In: Proceedings: Sierra Nevada Ecosystem Project: Final report to Congress.* Davis: University of California, Centers for Water and Wildland Resources. 30 p.

Franklin, J. F., D. Graber, K.N. Johnson, J. A. Fites-Kaufmann, K. Menning, D. Parsons, J. Sessions, T.A. Spies, J. Tappeiner, and D.A. Thornburgh. 1996. Comparison of alternative late-successional conservation strategies. *In: Proceedings: Sierra Nevada Ecosystem Project: Final report to Congress.* Davis: University of California, Centers for Water and Wildland Resources. 25 p.

Brown, Cameron and J. Sessions. 1996. A maximum load path solution for the standing skyline. *Forest Science* 42(2):220-227.

Bettinger, P., K.N. Johnson and J. Sessions. 1996. Forest planning in an Oregon case study: Defining the problem and attempting to meet goals with a spatial-analysis technique. *Environmental Management*, 20(4):565-577.

Gordon, J., J. Franklin, S. Gregory, K.N. Johnson, W. McComb, and J. Sessions. 1995. A management strategy for the proposed Coquille Forest. Coquille Indian Tribe, Coos Bay, Oregon. 110 p. (Peer-review coordinated by State of Oregon, Natural Resources)

Sessions, J., S. Crim and K.N. Johnson. 1994. Geographic information systems and decision models in forest management planning. P. 63-76 *In: Proceedings, Remote Sensing and GIS in Ecosystem Management.* Island Press.

Yoshimoto, A., J. D. Brodie, and J. Sessions. 1994. A new heuristic to solve spatially constrained long-term harvest scheduling problems. *Forest Science* 40(3):365-396.

Liu, K. and J. Sessions. 1993. Preliminary planning of road systems using digital terrain models. *Journal of Forest Engineering* 4, 27-32.

- Bettinger, P., J. Sessions, and L. Kellogg. 1993. Potential timber availability for mechanized harvesting in Oregon. *Western Journal of Applied Forestry* 8(1):1-5.
- Sessions, J. 1991. Solving for habitat connections as a Steiner network problem. *Forest Science* 38(1):203-207.
- Kendrick, D. and J. Sessions. 1991. A solution procedure for calculating the standing skyline load path for partial and full suspensions. *Forest Products Journal* 41(9):57-60.
- Olsen, E., S. Pilkerton, J. Garland, and J. Sessions. 1991. Computer aided bucking on a mechanized harvester. *Journal of Forest Engineering* 2(2):25-32.
- Anderson, P. and J. Sessions. 1991. Factors affecting the maximum grade a truck can climb around a curve. P. 15-19 *In: Proceedings, Fifth International Conference on Low Volume Roads*. Transportation Research Board, National Research Council, Washington, D.C. TRR 1291, Volume 2.
- Anderson, J. and J. Sessions. 1991. Managing low volume road systems for intermittent use. P. 224-230 *In: Proceedings: Fifth International Conference on Low Volume Roads*. Transportation Research Board, National Research Council, Wash. D.C. TRR 1291, Volume 1.
- Nelson, J., J. Brodie, and J. Sessions. 1991. Integrating short-term area-based logging plans with long-term harvest schedules. *Forest Science* 37(1):101-122.
- Garland, J., S. Pilkerton, E. Olsen, and J. Sessions. 1990. Extending optimal bucking to harvesting and site preparation decisions. *Western Journal of Applied Forestry*. 5(1):12-15.
- Olsen, E., J. Garland, and J. Sessions. 1989. Value loss from measurement error in computer aided bucking at the stump. *Applied Engineering in Agriculture*. 5(2):283-285.
- Yeap, Y.H. and J. Sessions. 1989. Optimizing road spacing and road standards simultaneously on uniform terrain. *Journal of Tropical Forest Science* 1(3):215-228.
- Shen, Zhenyan and J. Sessions. 1989. Log truck scheduling by network programming. *Forest Products Journal* 39(10):47-50.
- Sessions, J. and Y.H. Yeap. 1989. Optimizing road spacing and equipment allocation simultaneously. *Forest Products Journal* 39(10):43-46.
- Sessions, J. and J. Balcom. 1989. Determining maximum allowable weights for highway vehicles. *Forest Products Journal*. 39(2):49-52.
- Erkert, T. and J. Sessions. 1989. A method for determining offtracking of multiple unit vehicle combinations. *Journal of Forest Engineering* 1(1):9-16.

- Murphy, G., E. Olsen, and J. Sessions. 1989. Economic comparison of alternative sites for final log manufacturing in steep country plantations. *Applied Engineering in Agriculture* 4(4):319-322.
- Garland, J., J. Sessions, and E. Olsen. 1988. Logs manufactured using computer aided bucking at the stump. *Forest Products Journal* 9(3):62-66.
- Sessions, J., J. Garland, and E. Olsen. 1988. Testing computer aided bucking at the stump. *Journal of Forestry* 87(4):43-46.
- Sessions, J., E. Olsen, and J. Garland. 1988. Tree bucking for optimal stand value with log allocation constraints. *Forest Science* 35(1):271-276.
- Sessions, J. 1988. Improving tree bucking decisions in the woods: An introduction to optimal bucking. *Journal of Forestry* 86(10):43-45.
- Sessions, J., R. Layton, and Li Guangda. 1988. Making better tree bucking decisions: A network analysis solution technique. *The Compiler, Forest Resources Institute*. 5(5):5-9.
- Paredes, G. and J. Sessions. 1988. A solution method for the transfer yard location problem in forest operations. *Forest Products Journal* 38(3):53-58.
- Sessions, J. and G. Paredes. 1987. A solution method for the sort yard location problem in forest operations. *Forest Science* 33(3):750-762.
- Giles, R. and J. Sessions. 1987. Harvesting factors affecting financial feasibility in southwestern Idaho. *Western Journal of Applied Forestry* 2(4):105-110.
- Sessions, J., J. Balcom, and K. Boston. 1987. Road location and construction practices: Effects on landslide frequency and size in the Oregon Coast Range. *Western Journal of Applied Forestry* 2(4):119-124.
- Sessions, J. and Li Guangda. 1987. Determining road and landing spacing using microcomputers. *Western Journal of Applied Forestry* 2(3):22-26. Reprinted in *Chinese Forest Science*.
- Jackson, R. and J. Sessions. 1987. Travel speeds on curves and favorable grades for logging trucks on single-lane roads. P. 112-118 *In: Proceedings: Fourth International Conference on Low-Volume Roads*. Transportation Research Board, National Research Council Washington, D.C. TRR 1106, Volume 2
- Anderson, P., M. Pyles, and J. Sessions. 1987. Considerations in the operation of highway logging trucks on steep low-volume roads. P. 104-111 *In: Proceedings: Fourth International Conference on Low-Volume Roads*. Transportation Research Board, National Research Council, Washington, D.C. TRR 1106, Volume 2.

Sessions, J., R. Stewart, P. Anderson, and B. Tuor. 1986. Calculating the maximum grade a log truck can climb. *Western Journal of Applied Forestry* 1(2):43-45.

Sessions, J. 1986. Can income tax rules affect management strategies for forest roads? *Western Journal of Applied Forestry*. 1(1):26-28.

Sessions, J. and L. Filippetto. 1983. Determination of marginal costs between alternative levels of production using linear programming. *Revista Floresta* 14(2):22-27. Universidade de Parana, Curitiba, Brazil.

Kaiser, F., C. Row, and J. Sessions. 1981. Discount rate for long term Forest Service investments. *Journal of Forestry* 6:367-369.

Sessions, J. 1977. Stability considerations in ECHO Modeling. *Forest Science Note* 4:446-449.

Books and Book Chapters:

R. Nall and J. Sessions. 2015. Northwest Oregon State Forests, United States of America. In: *Forest Plans of North America*. Chapter 36. Eds. J. Siry, P. Bettinger, K. Merry, D. Grebner, K. Boston and C. Cieszewski. 483 pp. Academic Press. ISBN: 9780127999364.

Sessions, J., R. Heinrich and H. Castaneda-Langloise. 2015. Chapter 20, Roads. *Tropical Forestry Handbook, 2nd Edition*, L. Pancel and Köhl (eds). Springer Verlag Publishers. ISBN: 978-3-642-41554-8 (Online).

Acuna, M. and J. Sessions. 2014. A simulated annealing algorithm to solve the log-truck scheduling problem. In: *Simulated Annealing: Strategies, Potential Uses and Advantages*. NOVA Science. Chapter 8, pp. 191-220.

Bettinger, P., K. Boston and J. Sessions. 2008. Simulated Annealing. In Sven Erik Jørgensen and Brian D. Fath (Editor-in-Chief), *Ecological Informatics*. Vol. [4] of *Encyclopedia of Ecology*, 5 vols. Oxford: Elsevier pp. 3255-3261.

Sessions, J., P. Bettinger and G. Murphy. 2007. Heuristic Approaches in Forest Planning *In: Handbook on Operations Research in Natural Resources*. A. Weintraub, C. Romero, T. Bjorndal, and R. Epstein (eds.). Chapter 23, p. 431-448. *International Series in Operations Research and Management Science*, Vol. 99, Springer Publisher. 640 p.

Sessions, J. and Y. Havill (Eds). 2007. *Proceedings, the International Mountain Logging and 13th Pacific Northwest Skyline Symposium*. April 1-6. Corvallis, OR. Published by Department of Forest Engineering, Oregon State University. (CD)

Sessions, J., K. Boston, M. Wing, A. Akay, P. Theisen and R. Heinrich. 2007. *Forest Road Operations in the Tropics*. *Tropical Forestry Series Vol. 4*, Springer. 170 p.

Sessions, J., K. Boston, G. Murphy, M. Wing, L. Kellogg, S. Pilkerton, J. Zweede and R. Heinrich. 2007. *Harvesting Operations in the Tropics*. Tropical Forestry Series Vol. 5, Springer. 170 p.

Sessions, J., A. Akay, G. Murphy, C. Chung, and K. Aruga. 2006. *Road and Harvesting Planning and Operations in Computer Applications in Sustainable Forest Management: Including Perspectives on Collaboration and Integration*. Series: *Managing Forest Ecosystems*, Vol 11. G. Shao and K. Reynolds (eds.). Springer. Chapter 5. p 83-99.

Sessions, J., P. Overhulser, P. Bettinger, and D. Johnson. 2006. *Linking Multiple Tools: An American Case in Computer Applications in Sustainable Forest Management. : Including Perspectives on Collaboration and Integration*. Series: *Managing Forest Ecosystems*, Vol 11. G. Shao and K. Reynolds (eds.). Springer. Chapter 11. p. 223-238.

Akay, A.E. and J. Sessions. 2004. *Forest Operations: Roading and Transport Operations In: Encyclopedia of Forest Sciences*, Jeffery Burley, Julian Evans, and John A. Youngquist (eds.), Elsevier Limited, Oxford, UK. p. 259-269.

Bettinger, P., K. Boston, J. Sessions, and W. McComb. 2001. *Integrating Wildlife Species Habitat Goals in Quantitative Land Management Planning Processes*. P. 567-579 *In: Proceedings, Wildlife Habitats and Species Associations in Oregon and Washington*. D. H. Johnson and T. A. O'Neil (eds.), Oregon State University Press, Corvallis, OR.

Sessions, J. and W. Chung (Eds.). 1999. *Proceedings, The International Mountain Logging and 10th Pacific Northwest Skyline Symposium*. March 28-April 1. Corvallis, OR. Published by Department of Forest Engineering, Oregon State University, 372 p.

Heinimann, H. and J. Sessions (Eds.). 1999. *Proceedings, The seminar on forest operations in Himalayan forests with special consideration of ergonomic and socioeconomic problems*. Thimpu, Bhutan, October 20-27, 1997. Available on WEB at <http://www.upress.de/abstracts/3-933146-12-7.html>. Kassel University Press (ISBN 3-933146-12-7). 149 p.

Sessions, J. (Editor). 1995. *Proceedings: The technical sessions for forest operations under mountainous conditions*, S3.06, XX IUFRO World Congress, Tampere, Finland, August 6-12, 1995. Published by Oregon State University. 226 p.

Sessions, J. and J.D. Brodie (Eds.). 1995. *Proceedings: 1994 Symposium on Systems Analysis in Forest Resources*, Pacific Grove, CA. Sept. 6-9. Published by Oregon State University. 482 p.

Sessions, J. (Editor). 1994. *Proceedings, Workshop on Forest Operations, Ergonomics, and Environmental Protection*. June 24-27. Harbin, China. Published by Oregon State University. 392 p.

Sessions, J. and L. Kellogg (Eds.). 1994. *Proceedings: The Council on Forest Engineering, Advanced Technology in Forest Operations*. June 24-29. Corvallis, OR. Published by Oregon State University. 351 p.

Schiess, P. and J. Sessions (Eds.). 1993. Proceedings: The International Mountain Logging and Pacific Northwest Skyline Symposium. December 14-16. Bellevue, WA. Published by University of Washington 281 p.

Sessions, J. and R. Heinrich. 1993. Chapter 21, Harvesting. Tropical Forestry Handbook. Springer Verlag Publishers. pp 1324-1424.

Sessions, J. and R. Heinrich. 1993. Chapter 20, Roads. Tropical Forestry Handbook. Springer Verlag Publishers. pp 1270-1324.

Sessions, J. 1992. Editor. Proceedings, The Workshop on Computer Supported Planning of Roads and Harvesting, August 26-28. Feldafing, Germany. Workshop sponsored by Subject Groups 3.05 and 3.06 and the University of Munich. Pub. By Oregon State University. 316 p.

Sessions, J. 1992. Cost Control in Harvesting and Road Construction. Food and Agriculture Organization of the United Nations (FAO), Rome, Forestry Paper 99. 121 pp.

Sessions, J. 1990. Coordinator and Contributing author, Timber for Oregon's Tomorrow - The 1989 Update. Forest Research Laboratory, OSU. 192 p.

Sessions, J. and J.B. Sessions. 1990, 1993, 1995. SNAP II/III User's Guide. USDA Forest Service, Portland, OR. 120 p.

Sessions, J. and J.B. Sessions. 1988. SNAP User's Guide. USDA Forest Service, Portland, OR. 256 p.

Sessions, J. 1988. Editor, Proceedings, The International Mountain Logging and Pacific Northwest Skyline Symposium. December 12-16. Portland, OR. Published by Oregon State University, 193 p.

Studier, D., J. Sessions, W. Stuart, and R. Iff. 1984. Chapter 10, Logging. Society of American Foresters Handbook. pp. 491-563.

Sessions, J. 1980. (Chairman, Logging Section) National Forest Landscape Management, Volume 2, Chapter 5. USDA Forest Service Handbook 559. pp 196-220.

Binkley, V. and J. Sessions. 1978. Chain-and-Board Handbook for Skyline Tension and Deflection. USDA Forest Service, Pacific Northwest Region. 193 pp.

Other Publications and Reports:

Sessions, J., Boston, K., Zamora-Cristales, R., Belart, F., Marrs, G., and Murphy, G. 2017. *Feedstock Logistics*. NARA Final Reports. Pullman, WA. Northwest Advanced Renewables Alliance (NARA). Retrieved from <https://research.libraries.wsu.edu/xmlui/handle/2376/5310>

Vinnie Corrao (lead), J. Bailey, J. Gordon, A. Leighton, L. Mason, M. Rasmussen, and J. Sessions. 2016. Wildfire on Indian Forests: A Trust Crisis. Prepared for Intertribal Timber Council, 16 pp.

Mirkouei, A, K.R. Haapala, J. Sessions, and G.S. Murthy. 2015. Forest Biomass-to-Bioproducts Supply Chain under Real-World Uncertainty,” Proceedings of the IIE/ISERC, May 21-24, 2016. Anaheim, California, USA (abstract accepted).

Mirkouei, A, A. Afrasiyabi, K.R. Haapala, J. Sessions, and G.S. Murthy. 2015. Environmental Analysis of a Mixed-Mode Forest Biomass-to-Bio-oil Supply Chain. Proceedings of the IIE/ISERC, May 21-24, 2016. Anaheim, California, USA (abstract accepted).

Wooley, R., M. Wolcott, R. Cavalieri, J. Y. Zhu, R. Gleisner, A. C. Hawkins, J. Ley, K. Evans, G. Johnston, J. Gao, T. Spink, G. Marrs, and J. Sessions. 2016. Challenges of Producing Fuel Enabling the First Commercial Airline Flight from Cellulosic-based Alcohol to BioJet. In preparation for 38th Symposium on Biotechnology for Fuels and Chemicals April 25-28, 2016, Hilton Baltimore at Camden Yards, Baltimore, MD.

Sessions, J, V. Corrao, M. Acuna, and K. Kokenge. 2015. World Overview of Log Truck Scheduling and Opportunities for the Pacific Northwest. Summary paper from presentation to the 106th Pacific Logging Congress, Hilton Waikaloa Village, Hawaii, November 9-11, 2015.

Berry, M., R. Zamora-Cristales, and J. Sessions. 2015. Assessing Spatial Distribution and Availability of Forest Biomass by Harvesting System in the Pacific Northwest, USA. In Proceedings: 2015 Council on Forest Engineering (COFE) annual meeting, Univ. of Kentucky, July 19-22, Lexington, KY, USA.

Zamora-Cristales, R. and J. Sessions 2015. Economics of forest biomass feedstocks for aviation fuel production. Proceedings of the XIV World Forestry Congress, Durban, South Africa, 7-11 September 2015. 7 p.

Sessions, J., K. Trippe, S. Machado, R. Zamora, J. Campbell, J. Bailey, and D. Smith. 2015. Opportunities for biochar production to reduce forest wildfire hazard, sequester carbon, and increase agricultural productivity of dryland soils. Proceedings of the XIV World Forestry Congress, Durban, South Africa, 7-11 September 2015. 7 p.

Zamora, R. and J. Sessions. 2014. Economics of forest biomass processing and transport from harvest residues in steep terrain. Abstract from the XXIV IUFRO World Congress, October 5-11, Salt Lake City, USA *in* The International Forestry Review 16(5):265.

J.Y. Zhu, M. Chandra., R. Gleisner, W Gilles, Johnway Gao, G. Marrs , D. Anderson, and J. Sessions. 2014. Reviving sulfite pulping for sugar production from woody biomass. Paper prepared for 2014 TAPPI PEERS conference, Sept 14-17, Tacoma, WA.

Zamora R., and J. Sessions. 2014. Forest harvest residue collection model. In Proceedings: 2014 Council on Forest Engineering (COFE) annual meeting, June 22 – 25, Moline, Illinois, USA.

Gordon, J. and J. Sessions. 2014. IFMAT III: An Overview of the Assessment. Evergreen Magazine. 2014(Spring):18-19.

Sessions, J. and A. Leighton. 2014. Industry forestry: Still Under-funded and Under-staffed but “Making things work”. Evergreen Magazine. 2014(Spring):28-29.

Sessions, J. and R. Zamora. 2013. Cost –effective logistics for forest harvest residuals: the upstream part of the sugar stream. Prepared for the 2013 AAIC-AFRI conference on New Crops: Bioenergy, Biomaterials and Sustainability, Oct 12-16, Washington, D.C.

Gordon, J. (Co-chair), J. Sessions (Co-chair), J. Bailey, D. Cleaves, V. Corrao, A. Leighton, L. Mason, M. Rasmussen, H. Salwasser, and M. Sterner. 2013. Assessment of Indian forests and forest management in the United States. Rachel White (ed.). Prepared for Intertribal Timber Council under P.L. 101-630. Available at <http://www.itcnet.org/>

Gordon, J. and J. Sessions. 2013. Indian forests sustain economy and environment. Guest editorial in Seattle-Times. In print on Thursday, August 22 and online August 21 at http://seattletimes.com/html/opinion/2021660888_guestjohngordonjohnsessions22xml.html

Zamora, R. and J. Sessions. 2013. RENO: A Computerized Solution Procedure and Decision Support System for Forest Biomass Recovery Operations. Prepared for the 36th Council on Forest Engineering, Missoula, MT, July 7-10. 8 pp.

Zamora, R. and J. Sessions. 2013. A Decision Support System for the Economic Optimization of Forest Biomass Processing and Transportation. In preparation for the 5th Symposium for Systems Analysis in Forest Resources, Quebec City, CA, August 21-23.

Chung, W., F. Bower, O. O’Brien, and J. Sessions. 2013. SNAP for ArcGIS: A Planning and Educational Tool for Forest Engineers. In preparation for the 36th Council on Forest Engineering, Missoula, MT, July 7-10.

Beck, S. and J. Sessions. 2012. Ant colony heuristic for road maintenance. Prepared for 35th Council on Forest Engineering, New Bern, North Carolina, Sept 9-12.

Wimer, J. and J. Sessions. 2012. Single Wide Tires for Log Trucks. Prepared for 35th Council on Forest Engineering, New Bern, North Carolina, Sept 9-12.

Sessions, J. and J. Wimer. 2012. Pricing Forest Biomass By Energy Value. Prepared for 35th Council on Forest Engineering, New Bern, North Carolina, Sept 9-12.

- Zhang, C., J. Y. Zhu, R. Gleisner, and J. Sessions. 2012. Fractionation of forest residues of Douglas-fir for fermentable sugar production by SPORL Pretreatment. American Inst. Of Chemical Engineers (AIChE) Annual Meeting, Pittsburgh, PA Oct 28-Nov 2.
- Ghaffariyan, M. R. and J. Sessions. 2012. Comparing the efficiency of four harvesting methods in a blue gum plantation in south-west Western Australia. *CRC for Forestry Bulletin* 29, 4 p.
- Kellogg, L., J. Sessions, and J. Wimer. 2010. Operational Considerations in Thinning. *Western Forester* 55(4):4-6.
- Ghaffarian, R., K. Stampfer, J. Sessions, and M. Lexer. 2009. How does statistical error of yarding models affect the optimal road network. *In Proceedings 42nd International Symposium on Forestry Mechanization (FORMEC 2009)*, June 21-24, Prague, p. 146-152.
- Chung, W., C. Seielstad, and J. Sessions. 2008. SlopeRunner2.0: A Harvest Area Planning Tool for Cable Logging Using LIDAR-derived DEM and Stem Map. *In Proceedings of IUFRO All-D3-Conference: Pathways to Environmentally Sound Technologies for Natural Resource Use*, June 15-20, 2008, Sapporo, Japan.
- Akay, A., H. Acar, and J. Sessions. 2008. An Analysis of Utilizing Helicopter Logging in Turkish Forestry. *In Proceedings of the 2008 Annual Council on Forest Engineering Conference*, June 23-27, Charleston, South Carolina, 13 p.
- Ghaffarian, R., K. Stampfer, and J. Sessions. 2008. Using network analysis to optimize forest road network for cable logging. *In Proceedings 41st International Symposium on Forestry Mechanization (FORMEC 2008)*, June 2-5, Germany, p. 23-32.
- Ghaffarian, R., K. Stampfer, and J. Sessions. 2007. Optimum road spacing of forwarding operations: A case study in southern Austria. *In Proceedings 40th International Symposium on Forestry Mechanization (Austro2007/FORMEC 2007): Meeting the Needs of Tomorrow's Forests – New Developments in Forest Engineering*, October 7 – 11, Vienna and Heiligenkreuz, Austria, 11 p.
- Sessions, J. and K. Boston. 2007. The Effect of Rule Ordering in Heuristic Performance: A Preliminary Examination. Prepared for 2007 INFORMS conference, November 4-7, Seattle.
- Overhulser, P., E. Cox, J. Sessions, and P. Bettinger. 2007. Sustainability of forest resources: assessing various measures. *Decisions for Sustainability: Forest Estate models for the future*, Association of BC Forest Professionals. Victoria, B.C. June 12-14.
- Dodson, E., W. Chung, K. Mills, and J. Sessions. 2007. Transportation planning and decision analysis to determine low volume road stands, long term needs, and environmental risks and tradeoffs. *In Proceedings, International Mountain Logging and 13th Pacific Northwest Skyline Symposium*, April 1-6, 2007, Corvallis, Oregon. Department of Forest Engineering, Oregon State University. On CD.

Chung, W., J. Sessions, and J. Holub. 2007. SlopeRunner 1.0: A Program to Evaluate Cable Logging Feasibility and the Effectiveness of Tower Locations. *In Proceedings*, International Mountain Logging and 13th Pacific Northwest Skyline Symposium, April 1-6, 2007, Corvallis, Oregon. Department of Forest Engineering, Oregon State University. On CD.

Thompson, M. and J. Sessions. 2007. Management of federally owned forest roads: Challenges and possible solutions. *In Proceedings* of “ 12th Symposium for Systems Analysis in Forest Resources”, September 5-8, 2006, Burlington VT, USA. Matthew Pelkki, compiler. Arkansas Forest Resources Center Series 008, Monticello, AR. 5p.

Sessions, J. and S. Fitzgerald. 2006. The role of timber salvage in forest restoration: why, where, and when. *In Proceedings* of 29th Annual Meeting of Council on Forest Engineering (COFE), Coeur d 'Alene, Idaho, July 30-August 2. Woodam Chung (ed). CD-ROM.

Overhulser, P., J. Sessions, R. Holloway, D. Johnson, and M. Rasmussen. 2006. The State of Oregon Forests-An approach to policy analysis under complex demands. Crises in Agricultural and Resource Sectors Workshop: Analysis of Policy Responses", October 15 - 17, 2006, Calgary, Alberta, Canada.

Sessions, J. 2006. Are Indian Forests and Forest Management Improving? A comparison of the 1991 and 2001 national assessments. *Evergreen Magazine*. Winter 2005-2006, p.32-37.

Sessions, J. 2005. Resource and transportation scheduling to meet ecological and economic goals: The Tillamook Plan. *In Proceedings*, 28th Annual Meeting of Council on Forest Engineering (COFE). Soil, Water and Timber Management: Forest Engineering Solutions in Response to Forest Regulation. July 12-14, 2005, Fortuna, CA. USDA Forest Service Gen. Tech. Rep. PSW-GTR-194. pp.74-79.

Aruga, K., J. Sessions, and E. Miyata. 2005. Comparison of Tabu Search and the Genetic Algorithm for forest road alignment optimization with soil sediment evaluation. *In Proceedings*, 28th Annual Meeting of Council on Forest Engineering (COFE). Soil, Water and Timber Management: Forest Engineering Solutions in Response to Forest Regulation. July 12-14, 2005, Fortuna, CA, USA. USDA Forest Service Gen. Tech. Rep. PSW-GTR-194. pp. 236-248.

Akay, A., A. Yuksel, M. Reis, O. Erdas, and J. Sessions. 2005. Selecting the Optimal Forest Road Alignment with A Maximum Sediment Production Constraint. *In Proceedings* 28th Annual Meeting of Council on Forest Engineering (COFE). Soil, Water and Timber Management: Forest Engineering Solutions in Response to Forest Regulation. July 12-14, 2005, Fortuna, CA, USA. USDA Forest Service Gen. Tech. Rep. PSW-GTR-194. pp. 302-311.

Sessions, J. 2005. Forest planning and timber harvesting-northeast Antioquia forestry project. Colombia Forestry Development Program, Internal report to Chemonics, Medellin, Colombia.

Chung, W., G. Jones, J. Sullivan, and J. Sessions. 2005. Developing a heuristic solver for MAGIS using a sequence of heuristic optimizations to integrate resource management and

transportation planning on large forest lands. *In Proceedings*, 28th Annual Meeting of Council in Forest Engineering (COFE). Soil, Water and Timber Management: Forest Engineering Solutions in Response to Forest Regulation. July 12-14, 2005, Fortuna, CA. USDA Forest Service Gen. Tech. Rep. PSW-GTR-194. pp. 312-327.

Sessions, J. and P. Overhulser. 2004. Impacts of the salmon anchor habitat strategy on volumes and revenues from the Tillamook Forest. Paper prepared for Salmon Habitat Anchor Workshop, June 24, 2004, Tillamook, Oregon. Natural Resources Institute, Oregon State University.

Akay, A., I.R. Karas, J. Sessions, A. Yuksel, N. Bozali, and R. Gundogan, 2004. Using high-resolution digital elevation model for computer-aided forest road design, *In Proceedings* for XXth International Society for Photogrammetry and Remote Sensing (ISPRS) Congress, July 2004, Istanbul, Turkey.

Sessions, J. and M. Sterner. 2004. Making forests firesafe: What does it take? *In Proceedings*, the 28th Annual Indian Timber Symposium, April 27-29, Ocean Shores, Washington, Intertribal Timber Council, Portland, OR.

Aruga K., J. Sessions, A. Akay and W. Chung. 2004. Optimizing horizontal and vertical alignments of forest roads using a high resolution DEM. *In Proceedings*, "Improving the Bottom Line", International Mountain Logging and 12th Pacific Northwest Skyline Symposium, Vancouver, British Columbia, June.

Akay, E., J. Sessions, P. Bettinger, and O. Erdas. 2004. Finding the vertical alignment of a forest road using several heuristic techniques. *In Proceedings*, 27th Annual Meeting Council on Forest Engineering (COFE), April 27-30, Hot Springs, Arkansas.

Akay, A. and J. Sessions. 2004. Identifying the factors influencing the cost of mechanized harvesting equipment. *Journal of Science and Engineering*, Kahramanmaras Sutcu Imam University, 7 (2): 65-72.

Akay, A. and J. Sessions. 2003. Introducing harvesting equipment used in North America. Internal report to Kahramanmaras University faculty, Turkey, 8 p.

Akay, A.E. and J. Sessions. 2003. Can TRACER help design forest roads? Second International Precision Forestry Symposium, University of Washington, College of Forest Resources, Seattle, Washington, USA.

Garland, J., J. Sessions, S. Pilkerton, J. Hartter, and J. Leonard. 2003. Synthetic rope to replace wire rope in mountain logging operations. Prepared for Austro 2003: High Tech Forest Operations for Mountainous Terrain, October 5-9, 2003, Schlaegl, Austria, 9 p.

Gordon, J. (Chairman), J. Sessions (Vice-Chairman), J. Franklin, K.N. Johnson, J. Berry, M. Sterner, M. Ferrucci, C. Mukumoto, K.N. Johnson, J. Franklin, and D. Patton. 2003.

Assessment of Indian forests and forestry in the United States. Prepared for the Intertribal Timber Council, Portland, Oregon in response to P.L. 101-630. 123 p.

Sessions, J., R. Buckman, M. Newton, and J. Hamann. 2003 The Biscuit fire: An examination of management options for forest regeneration, timber salvage, and fire and insect risk reduction. Report to Doug Robertson, Chairman of the O&C County Commissioners. 63 p.

Pilkerton, S., J. Garland, J. Leonard, and J. Sessions. 2003. Synthetic rope use in logging winching applications. Proceedings of the Council on Forest Engineering.

Chung, W. and J. Sessions, 2003. A computerized method for determining cable logging feasibility using a digital elevation model. Proceedings of the Council on Forest Engineering.

Wing, M., J. Sessions, and E. Coulter. 2003. Preliminary investigation of Digital Elevation Model resolution for transportation routing in forested landscapes. P. 137-142 *In: Proceedings, Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle, WA.*

Marshall, H., K. Boston, and J. Sessions. 2003. Harvest scheduling with aggregation adjacent constraints: A threshold acceptance approach. P.131-136 *In: Proceedings of the Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle, WA.*

Coulter, E. and J. Sessions. 2003. Use of the analytic hierarchy process to compare disparate data and set priorities. *In: Proceedings, Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle, WA.*

Cornell, J., J. Sessions, and J. Mateski. 2003. Precision forestry applications: Use of DGPS data to evaluate aerial forest operations. P. 37-44 *In: Proceedings, The Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle.*

Sessions, J. 2003. Improving Habitat for Species at Risk While Maintaining Timber Supply: The Umpqua land exchange project. P.175-182 *In: Proceedings, of the 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Nalle, D., J. Arthur, and J. Sessions. 2003. Designing a Compact and Contiguous Reserve Network under a Budget Constraint. P.243-248 *In: Proceedings, 2000 Systems Analysis Symposium in Forest Resources. Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Chung, W. and J. Sessions. 2003. NETWORK 2000: A program for optimizing large fixed and variable cost transportation problems. P.109-120 *In: Proceedings, The 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Chung, W. and J. Sessions, 2003. An application of combinatorial heuristics to timber sale scheduling considering distance dependent costs and equipment balancing requirements. P.91-104. *In: Proceedings, 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Sessions, J. and W. Chung. 2003. An approach to optimizing helicopter logging operations. P. 81-86 *In: Proceedings, The 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Bettinger P. and J. Sessions, J. 2003. Eight heuristic planning techniques applied to three increasingly difficult wildlife planning problems: A Summary. P.249-258 *In: Proceedings, The 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30. Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Sessions, J. and P. Overhulser. 2003. Structure-based management for the State of Oregon: An application of combinatorial optimization heuristics for large scale landscape analysis. P.135-143 *In: Proceedings, The 2000 Systems Analysis Symposium in Forest Resources, Aspen, Colorado, Sept 28-30, Volume 7, Managing Forest Ecosystems, Kluwer Press.*

Sessions, J. 2002. Softwood resources of the Eastern Cape Province of South Africa. Report for USAID-ALO Sustainability Project. College of Forestry, Oregon State University. 8p.

Sessions, J. 2002. Linking harvesting technology with harvest scheduling in steep terrain for sustainable forestry. *In: Proceedings: "WOODFOR AFRICA", July 2-5, Pietermaritzburg, South Africa. Loren Kellogg and Ben Spong, editors. Department of Forest Engineering, Oregon State University, Corvallis, OR.*

Coulter, E., A. Skaugset, J. Coakley, and J. Sessions. 2002. Sedimentation risk for a road network in western Oregon. *In: Proceedings, The Council of Forest Engineering, June 16-20, Auburn, AL. 4p.*

Chung, W. and J. Sessions. 2002 Optimization of Cable Logging Layout using a Heuristic Algorithm for Network Programming. *In: Proceedings, The Council of Forest Engineering, June 16-20, Auburn, AL. 4pp.*

Sessions, J. 2002. Economic Drivers to Silviculture. *In: Proceedings, Symposium on Silvicultural Options for Sustainable Management of Pacific Northwest Forests: Integrating research results in management practice", March 5-6, 2002. Oregon State University, College of Forestry, Corvallis.*

Chung, W. and J. Sessions. 2002. Optimizing cable logging harvest design and road systems simultaneously on a digital terrain model P. 53-160 *In: Proceedings, Society of American Foresters, 2001 National Convention. Bethesda, MD. Society of American Foresters.*

Wing, M., E. Coulter and J. Sessions. 2002. Developing a decision support system to improve transportation planning in landslide prone terrain. *In: Proceedings: Society of American Foresters 2001 National Convention*. Bethesda, MD. Society of American Foresters.

Chung, W. and J. Sessions. 2001. NETWORK 2001 - Transportation planning under multiple objectives. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Akay, A. and J. Sessions. 2001. Minimizing road construction plus forwarding costs under a soil disturbance constraint. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Wing, M., J. Sessions, E. Coulter. 2001. Using heuristics and GIS to improve transportation planning in landslide prone terrain. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Bettinger, P. and J. Sessions. 2001. Integrating spatial aquatic habitat goals into a planning process considering alternative harvesting system and road management strategies. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Pilkerton, S., J. Garland, J. Sessions, and B. Stringham. 2001. Prospects for using synthetic rope in logging: First look and future research. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Epstein, R., A. Weintraub, J. B. Sessions, J. Sessions, P. Sapunar, and F. Bustamante. 2001. PLANEX: A system to identify landing locations and access roads. *In: Proceedings, The International Mountain Logging and 11th Pacific Northwest Skyline Symposium*, December 10-12, Seattle, WA.

Sessions, J. and P. Overhulser 2001. Dynamic reserve selection and maintenance: The Elliott forest plan. INFORMS 2001 meeting, June 14-18, Maui, Hawaii.

Sessions, J., W. Chung, and H.R. Heinemann. 2001. New algorithms for solving large transportation planning and harvest scheduling problems. *In: Proceedings, 5th Brazilian Symposium on Harvesting and Wood Transport; Challenges to increase the productivity and costs reduction*, ed. C. Machado, Porto Seguro, BA, Brazil, October 3-5. Departamento de Engenharia Florestal, Universidade Federal de Vicosa, CEP 36571-000-Vicosa - MG, Brazil.

Sessions, J., W. Chung, and H. Heinemann. 2001. New algorithms for solving large transportation planning problems. FAO/ECE/ILO workshop on new trends in wood harvesting with cable systems for sustainable forest management in mountain forests, Ossiach, Austria, June 18-24.

Chung, W., J. Sessions, and H. Heinemann. 2001. Optimization of cable harvesting equipment placement and road locations using digital terrain models. FAO/ECE/ILO workshop on new

trends in wood harvesting with cable systems for sustainable forest management in mountain forests, Ossiach, Austria, June 18-24.

Heinimann, H, J. Sessions, and W. Chung. 2001. Approaches to the design of forest cable systems. FAO/ECE/ILO workshop on new trends in wood harvesting with cable systems for sustainable forest management in mountain forests, Ossiach, Austria, June 18-24.

Garland, J., J. Sessions, and S. Pilkerton. 2001. Synthetic rope used in logging: Some potentials. 2001. *In: Proceedings, 24th Meeting of the Council of Forest Engineering, July 15-19, Snowshoe, West Virginia.* Eds. Jingxin Wang, Michelle Wolford, and Joe McNeel. CD available from Council on Forest Engineering, Corvallis, OR.

Coulter, E. and J. Sessions, 2001. Managing Existing Road Systems: How should priorities be set? *In: Proceedings, The 24th Meeting of the Council of Forest Engineering, July 15-19, Snowshoe, West Virginia.* Eds. Jingxin Wang, Michelle Wolford, and Joe McNeel. CD available from Council on Forest Engineering, Corvallis, OR.

Chung W., and J. Sessions, 2001. Designing a forest road network using heuristic optimization techniques. *In: Proceedings, The 24th Meeting of the Council of Forest Engineering, July 15-19, Snowshoe, West Virginia.* Eds. Jingxin Wang, Michelle Wolford, and Joe McNeel. CD available from Council on Forest Engineering, Corvallis, OR.

Sessions, J. and W. Chung. 2001. Effect of load distribution and trailer geometry on the gradeability of short log tractor-trailer combinations. *In: Proceedings, The 24th Meeting of the Council of Forest Engineering, July 15-19, Snowshoe, West Virginia.* Eds. Jingxin Wang, Michelle Wolford, and Joe McNeel. CD available from Council on Forest Engineering, Corvallis, OR.

Sessions, J. and P. Bettinger. 2001. Hierarchical Planning: Pathway to the Future? P. 185-190 *In: Proceedings, The First International Precision Forestry Symposium, June 17-20, University of Washington Institute for Forest Resources, Seattle, WA.*

Coulter, E., W. Chung, A. Akay, and J. Sessions. 2001. Forest road layout using a high resolution digital terrain model generated from LIDAR data. P. 125-130 *In: Proceedings, The First International Precision Forestry Symposium, June 17-20, 2001, University of Washington, Institute for Forest Resources, Seattle, WA.*

Sessions, J. and P. Bettinger 2000. Wildlife Linkages to Forest Conditions at the Landscape Level. *In: Proceedings, The 2000 NCASI West Coast Regional Meeting, Sept. 26-28. Portland, Oregon.* National Council of the Paper Industry for Air and Stream Improvement. 5p. (in press)

Sessions, J. 2000. Improving the Efficiency of Timber Supply While Saving the Fish: The Umpqua Land Exchange Project. *In: Proceedings, "IIFET 2000 - Microbehavior and Macroresults", International Institute of Fisheries Economics and Trade. July 10-14, 2000, Corvallis, Oregon.* Available on CD from Department of Agricultural and Resource Economics, Oregon State University.

Gordon, J., J. Sessions, J. Berry, T. Walicki, J. Franklin, D. Patton, D. Johnson, and C. Bingham. 1999. A sustainability strategy for the Klamath Forest. On file at Interforest, LLC, Madison, CT. 101 p.

Sessions, J., D. Graetz, and D. Johnson. 1999. A survey of selected landscape planning efforts in Western Oregon. *In: Proceedings, Oregon's Forests at the Millennium, September 9, 1999*, Department of Forest Resources, Oregon State University, Corvallis, OR. 3 p.

Epstein, R., A. Weintraub, J. Sessions, J. B. Sessions, P. Sapunar, E. Nieto, F. Bustamante, and H. Musante. PLANEX: an equipment and road location system. 1999. P. 365-368 *In: Proceedings, The International Mountain Logging and 10th Pacific Northwest Skyline Symposium, March 28-April 1*, Department of Forest Engineering, Oregon State University, Corvallis, OR.

Bettinger, P. K.N. Johnson, and J. Sessions, J. 1999. A TABU search technique for addressing aquatic habitat condition goals in eastern Oregon. P. 322-323 *In: Proceedings, The International Mountain Logging and 10th Pacific Northwest Skyline Symposium, March 28-April 1*, Department of Forest Engineering, Oregon State University, Corvallis, OR.

Sessions, J. and W. Chung. 1999. Optimizing Helicopter Landing Locations. P. 337-340 *In: Proceedings, The International Mountain Logging and 10th Pacific Northwest Skyline Symposium, March 28-April 1*, Department of Forest Engineering, Oregon State University, Corvallis, OR.

Gordon J., J. Berry, D. Patton, J. Sessions, and T. Walicki. 1998. A sustainability strategy for the forests of the Candlewood Timber Group, Inc. in Northwest Argentina. On file with Interforest, LLC, Madison, CT. 41 p. plus appendices.

Sessions, J. 1998. Adjusting ownership patterns to improve ecological health. Paper presented at the INFORMS (ORSA-TIMS) Seattle Fall Meeting, October 25-28, Seattle, WA. 5 p.

Garland, J. and J. Sessions. 1998. Plantation Forests: Opportunities for optimizing harvest operations. Presented at the Seminar on Plantation Harvesting, World Bank Project 3697, Montevideo, Uruguay, September 24-25, 1998. 11 p.

Johnson, K.N., P. Bettinger, J. Brooks, A. Herstrom, and J. Sessions. 1998. Assessing the Sustainability of Oregon's Forest Resources: Initial Simulation of Forest Condition and Outcomes for Two River Basins in Coastal Oregon. Dept of For Resources, OSU. 25 p.

Hobbs, S., R. Beschta, E. Clark, J. Gabriel, S. Garman, R. Gill, S. Gregory, W. McComb, A. McKee, W. Ripple, J. Sessions, B Spence, and D. Vesely. 1998. The Umpqua Land Exchange Project Pilot Study Report. World Forestry Center, Portland, OR. 170 p.

Sessions, J. 1998. Improving ecological health through changes in land ownership patterns. Presentation delivered as part of the F.K. Weyerhaeuser Lecture Series on Current Issues in

Commercial Forestry, College of Forestry and the Environment, Yale University, April 13, 1998, New Haven, CT. 5 p.

MacNaughton, J., S. Xu, and J. Sessions. 1997. Preliminary planning of forest roads using ARC GRID. p. 67-71 *In: Proceedings, GIS '97- Eleventh Annual Symposium on Geographic Information Systems, February 17-20, Vancouver, BC.*

Brown, Cameron, J. Sessions, G. Milota, L. Kellogg, and C. Jarmer. 1997. User's Guide for LoggerPC 3.2. Department of Forest Engineering, Oregon State University. 142 p.

Gabriel, J., J.B. Sessions, and J. Sessions. 1997. User's Guide for Arc to SNAP Interface. Land Management Planning Unit, USDA Forest Service, Fort Collins, CO. 6 p.

Sessions, J., G. Reeves, K.N. Johnson, and K. Burnett. 1997. Implementing spatial planning in watersheds. P. 271-284 *In: Proceedings, Creating a Forestry for the 21st Century. K. Kohm and J. Franklin, Eds., Island Press.*

Brown, C. and J. Sessions. 1997. Variable tire inflation for tropical forests: Synthesis of concepts and applications. P. 81-96 *In: Proceedings, Research on environmentally sound forest practices to sustain tropical forests. FAO/IUFRO Satellite Meeting held in conjunction with the IUFRO XX World Congress, Tampere, Finland, August 4-5, 1995. FAO, Rome, Italy.*

Garland, J. and J. Sessions. 1996. Sortyard feasibility study for the Warm Springs Reservation. Submitted to the Warm Springs Tribal Council, Warm Springs, OR. 31 p.

Smith, G., Sessions, J. and V. Correo. 1996. Forest management plan for the Vanino Area, Khabarovsk Krai, Russia Far East. Report submitted to Global Forest Management, Portland, OR. 45 p.

Smith, G., Sessions, J. and V. Correo. 1996. A study of timber harvesting feasibility for five forest areas in Khabarovsk Krai, Russia Far East. Report submitted to Global Forest Management, Portland, OR.

Sessions, J. and K.N. Johnson. 1996. Forest Planning on the National Forests under Ecosystem Management. P. 362-378 *In: Proceedings, "The National Forest Management Act in a Changing Society: 1976-1996". Sept. 16-18, 1996. Natural Resources Law Center, University of Colorado School of Law, Boulder, CO.*

Brown, C. and J. Sessions. 1996. Optimizing standing skyline payloads. *In: Proceedings, Mountain Logging: Addressing today's social and environmental issues. May 12-16, Campbell River, B.C., International Mountain Logging and PNW Skyline Symposium, FERIC.*

Lippke, B., J. Sessions, and A. Carey. 1996. Economic analysis of forest landscape alternatives. CINTRAFOR Special Paper 21. University of Washington. 157 p.

Sessions, J. and K.N. Johnson. 1996. Forests, fire, and people in the Sierra Nevada. USDA Forest Service, Washington Office Ecosystem Management Center Analysis Notes, Vol. (6) 1-2.

Epstein, R., A. Weintraub, P. Sapunar, E. Nieto, J. Sessions, and J.B. Sessions. 1995. PLANEX: A system for optimal assignment of harvesting. *In: Proceedings, "Harvest Planning"*, Nelson, New Zealand, Nov. 1995. New Zealand Logging Industry Research Organization (LIRO). 6 p.

Johnson, K. N., J. Franklin, D. Johnson, and J. Sessions. 1995. Management of the old-growth forest resource on the Warm Springs Reservation. Final report for the Confederated Tribes of the Warm Springs Reservation. 64 p.

Carey, A., C. Elliott, B. Lippke, J. Sessions, C. Chambers, C. Oliver, J. Franklin, and M. Raphael. 1995. A pragmatic ecological approach to small landscape management. Final report of the biological diversity pathways working group of the Washington Landscape Management Project. Washington Department of Natural Resources, Olympia, WA. 142 p.

Lippke, B., J. Sessions, A. Carey, and C. Elliott. 1995. Economic analysis of forest landscape management alternatives. Final Report on the working group on the economic analysis of landscape management alternatives for the Washington Landscape Management Project. Washington Department of Natural Resources, Olympia. 82 p.

Sessions, J., F. Majid, and C. Brown. 1995. An economic study of alternative timber harvesting systems in Peninsular Malaysia. Forestry Department of Peninsular Malaysia/Overseas Development Agency. 28 p.

Sessions, J. and S. Crim. 1995. Incorporating habitat suitability indices into large scale linear programs. Paper presented at 1995 ORSA/TIMS (INFORMS) national meeting, Los Angeles, CA. 15 p.

Sessions, J. and J. Garland. 1994. Logging overview. McGraw Hill Encyclopedia of Science and Technology.

Sessions J. and J. Garland. 1994. Forest engineering overview. McGraw Hill Encyclopedia of Science and Technology.

Sessions, J., R. Epstein, P. Apenas, A. Weintraub, and J. B. Sessions. 1994. PLANEX, a program for operational forest planning. *In: Proceedings, The Workshop on Forest Operations, Ergonomics, and Environmental Protection*. June 24-27, 1994. Harbin, China. J. Sessions (Ed.) Published by Dept. of Forest Engineering, Oregon State University.

Sessions, J. 1994. Obstacles to implementation. (President's Forest Plan). *Journal of Forestry* 92(4):42.

Sturgeon, J. and J. Sessions. 1994. Forest management on Alaska native lands. *Journal of Forestry*, 92(5):10-13.

Sessions, J. 1993. Harvest planning, cumulative effects and landscape analysis. In Proceedings Planning and implementing future forest operations, International Mountain Logging and Pacific Northwest Skyline Symposium, December 14-16, 1992. Bellevue, WA. Published by University of Washington.

Brooks, E. and J. Sessions. 1993. Forwarder PC-A mobility and optimal road spacing program for forwarding equipment. *In: Proceedings, Planning and implementing future forest operations. International Mountain Logging and Pacific Northwest Skyline Symposium, December 14-16, 1992. Bellevue, WA. Published by University of Washington.*

Jarmer, C. and J. Sessions. 1993. LOGGERPC 3.0 -- For improved logging planning. P. 241-247 *In: Proceedings, Planning and implementing future forest operations. International Mountain Logging and Pacific Northwest Skyline Symposium, December 14-16, 1992. Bellevue, WA. Published by University of Washington.*

Gordon, J. (Chairman), J. Sessions (Vice-Chairman), K.N. Johnson, J. Franklin, J. Sedell, D. Patton, and E. Williston. 1993. Assessment of Indian forests and forestry in the United States. Prepared for the Intertribal Timber Council, Portland, Oregon in response to P.L. 101-630. 110 p.

Sessions, J. and S. Randhawa. 1992. Incorporating watershed management in operational forest planning. P. 272-280 *In: Proceedings, Workshop on Computer Supported Planning of Roads and Harvesting, August 26-28, 1992, Feldafing, Germany. Published by Oregon State University.*

Jarmer, C. and J. Sessions. 1992. Computer based skyline analysis: LOGGERPC 3.0 - a new tool for logging planning. P 128-134 *In: Proceedings, Workshop on computer supported planning of roads and harvesting; August 26-28, 1992, Feldafing, Germany. Published by Oregon State University.*

Sessions, J. and J.B. Sessions. 1992. Tactical forest planning using SNAP 2.03. P. 112-120 *In: Proceedings, Workshop on computer supported planning roads and harvesting, August 26-28, 1992, Feldafing, Germany. Published by Oregon State University.*

Anderson, P., T. Erkert and J. Sessions. 1992. Determining limiting vertical and horizontal alignments on forest roads. P. 77-84 *In: Proceedings, Workshop on computer supported planning of roads and harvesting; August 26-28, 1992, Feldafing, Germany. Published by Oregon State University.*

Sessions, J. 1992. Using network analysis for road and harvest planning. P. 26-35 *In: Proceedings, Workshop on computer supported planning of roads and harvesting; August 26-28, 1992, Feldafing, Germany. Published by Oregon State University.*

Sessions, J. and S. Randhawa. 1992. Using pattern generation for operational forest planning. Project Report PNW 90-491 on file with USDA Forest Service, PNW Station, Portland, OR. 19 p.

Sessions, J. and J. B. Sessions. 1992. Post new-forestry tools for tactical forest planning. *Western Wildlands*, Univ. of Montana, Missoula 17(4):39-44.

Sessions, J. and J. B. Sessions. 1991. Tactical harvest planning. *In: Proceedings, Pacific Rim Forestry - Bridging the World*, Soc. Amer. For. National Meeting, Aug. 4-7, San Francisco, CA (in press).

Olsen, E., S. Pilkerton, J. Garland and J. Sessions. 1991. Questions about optimal bucking. *FRL Res. Bul. 71*, Oregon State University, Corvallis. 18 p.

Anderson, Paul and J. Sessions. 1991. Gradeability on forest roads - Field observations compared to an analytical model. p. 17-21 *In: Proceedings, Challenges and solutions for forestry operations in the nineties"*. Council on Forest Engineering. July 22-25, 1991. Nanaimo, B.C.

Sessions, J. and J. B. Sessions. 1991. Tactical Forest Planning Using SNAP II. P. 12-16 *In: Proceedings, Challenges and solutions for forestry operations in the nineties"*. Council on Forest Engineering. July 22-25, 1991. Nanaimo, B.C.

Funck, J., J. Sessions, J. Garland, R. Avery, and P. Wilson. 1991. An allocation model for forest residue utilization. *In: Proceedings, Integrated Harvesting Systems. International Energy Agency Workshop*, June 3-8, 1991. Portland OR. Aberdeen University Forestry Research Paper 1991:2, 21-31.

Sessions, J. and J.B. Sessions. 1991. SNAP II - A spatial tactical forest planning model for resource planning and allocation. *In: Proceedings, Integrated harvesting systems. International Energy Agency Workshop (Task 6, Activity 2)*, June 3-8, 1991. Portland, OR. Aberdeen University Forestry Research Paper 1991:2, 12-20.

Garland, J., J. Sessions, and C. Lewis. 1991. The resource, the systems, the economics. Presented at American Pulpwood Association Western Division Meeting, Tumwater, WA. April 17, 1991. 15 p.

Sessions, J. and J. B. Sessions. 1991. SNAP II - A scheduling and network analysis program for tactical forest planning p. 236-239. *In: Proceedings, Elk Vulnerability*. April 10-12, Montana State University, Bozeman, MT.

Brodie, J.D. and J. Sessions. 1991. The evolution of analytic approaches to spatial harvest scheduling. P. 187-191 *In: Proceedings, 1991 Symposium on System Analysis in Forest Resources*. USDA Forest Service, Southeastern Forest Experiment Station, Asheville, North Carolina. General Technical Report SE-74.

Sessions, J. 1990. Logical points of manufacture, Northern California or Southern Oregon. Report on file with Internal Revenue Service, United States Tax Court Docket No. 33335-87. Seattle, WA. 28 pp.

Erkert, T. and J. Sessions. 1989. Offtracking of truck and truck combinations using forest roads. P. 51-55 *In: Proceedings, Implementing techniques for successful forest operations.* Council of Forest Engineering, Aug. 27-30. Coeur D'Alene, ID.

Cullen, J. and J. Sessions. 1989. Does network analysis pay? P. 92-94 *In: Proceedings, Implementing techniques for Successful forest operations.* Council of Forest Engineering, Aug. 27- 30. Coeur D'Alene, ID.

Sessions, J. and J. Mann. 1989. Matching cable yarders to the job: Interpreting equipment specification sheets. P. 32-36 *In: Proceedings, Implementing techniques for successful forest operations.* Council of Forest Engineering, Aug. 27-30. Coeur D'Alene, ID.

Sessions, J. 1988. Cost control in logging and road construction. P. 233-270 *In: Proceedings, Appropriate Forest Operations.* FAO/Finland Training Course, Philippines, Nov 23-December 11, 1987. Finnish International Development Agency (FINNIDA), Helsinki.

Balcom, J. and J. Sessions. 1988. Modeling truck performance. P. 121-125 *In: Proceedings, International Mountain Logging and Pacific Northwest Skyline Symposium,* Portland, Oregon. December 12-16, 1988.

Sessions, J. and J.B. Sessions. 1988. SNAP - A scheduling and network analysis program for tactical harvest planning. P. 71- 75. *In: Proceedings: International Mountain Logging and Pacific Northwest Skyline Symposium,* Portland, Oregon. December 12-16, 1988.

Sessions, J., J. Garland, and E. Olsen. 1988. BUCK: A program for optimal tree bucking. *The Compiler.* Forest Resources Institute. 6(3): 10-13.

Mann, J.W., L. Kellogg, and J. Sessions. 1988. Current forest operations research and needs for the future in the Pacific Northwest Region of the United States. *In: Proceedings, International Union of Forest Research Organizations Meeting on the Future Needs of Forest Operations Research,* Uppsala, Sweden. May 25-June 3. 16 pp.

Sessions, J. and J.W. Mann. 1988. Testing optimal bucking log-bucking at the stump. *In: Proceedings, International Energy Agency 1988 Workshop on Harvesting Whole Trees and Log Allocation for Conventional and Energy Products.* Garpenburg, Sweden. June 6-10. 17 pp.

Nelson, J., J. Brodie, and J. Sessions. 1988. Integrating short-term spatially feasible harvest plans with long-term harvest schedules using Monte-Carlo integer programming and linear programming. P. 224-229. *In: Proceedings, The 1988 Symposium on System Analysis in Forest Resources.* GTR-161, USDA Forest Service, Rocky Mountain Ranger and Forest Station, Fort Collins, CO.

Moore, T., Sessions, J., and R. Layton. 1988. Relating Network Analysis Results to Data Uncertainty in Forest Development Applications. P. 260-265 *In: Proceedings, The 1988 Symposium on System Analysis in Forest Resources.* GTR-161. USDA Forest Service, Rocky Mountain Ranger and Forest Station, Fort Collins, CO.

Sessions, J., J. Garland, and G. Paredes. 1988. Identifying sort yard locations with size-dependent processing costs. P. 245-250 *In: Proceedings, The 1988 Symposium on System Analysis in Forest Resources*. GTR-161. USDA Forest Service, Rocky Mountain Ranger and Forest Station, Fort Collins, CO.

Sessions, J. and G. Paredes. 1988. A procedure for identifying sort yard locations in forest operations. P. 252-257 *In: Proceedings, Economic and Social Development*. Society of American Foresters. Minneapolis, MN.

Garland, J., J. Sessions, and E. Olsen. 1988. Optimal bucking at the stump. P. 239-247 *In: Proceedings, High technology in forest engineering*. Tenth Annual Council on Forest Engineering (COFE) Meeting, College of Environmental Sciences and Forestry, Syracuse, NY.

Sessions, J. 1987. Testing hand held computer aided decision making at the stump. *In: Proceedings, International Energy Agency Workshop Project CPC-9. Harvesting whole trees with log allocation in the Forest to Conventional and Energy Products*. May 11-15. University of British Columbia, Canada. 6 pp.

Sessions, J. and J. Welker. 1987. Determination of road and landing spacing in plantations with commercial thinning. P. 14-27 *In: Proceedings, Harvesting, transport, ergonomics and safety in plantation forestry*. IUFRO Symposium. Federal University of Parana. Curitiba, Brazil, April 5-10.

Johnson, K.N. and J. Sessions. 1987. Forest Planning--Can it deal with below-cost timber sales? P. 73-86 *In: Proceedings, Below cost timber sales*. Wilderness Society. February 17-19, 1986, Spokane, Washington.

Sessions, J. 1987. Symposium Summary and Closing Remarks. P. 163-164 *In: Proceedings, FORPLAN--An Evaluation of a Forest Planning Tool*. Colorado State University, Fort Collins, CO.

Sessions, J. 1987. A heuristic algorithm for the solution of the variable and fixed cost transportation problem. P. 324-336 *In: Proceedings, The 1985 Symposium on System Analysis in Forest Resources*. University of Georgia, Athens, GA.

Welker, J., J. Sessions, and J. Brodie. 1986. Tropical energy plantations--spacing, fertilization, and rotation. p. 470-483 *In: Proceedings, 18th IUFRO World Congress, Division 1, Forest Operations and Techniques*. Ljubljana, Yugoslavia.

Sessions, J., J.W. Mann, and D. Brodie. 1986. Technical advances in wood utilization, quality premiums for stumpage, and profitability of forest investment. P. 45-52 *In: Proceedings, 47346 of the Forest Products Research Society: Assessing timberland investment opportunities*. Atlanta, GA.

Sessions, J. and M. Pyles. 1986. Effect of ground contact area on the maximum net thrust of a logging truck on an aggregate surface. Test report on file, PACCAR Technical Center, Mt. Vernon, Washington. 11 pp.

Sessions, J., R. Iff, and P. Cottell. 1986. Mountain logging in North America; trends for the next decade. P. 180-189 *In: Proceedings, 18th IUFRO. World Congress, Division 3, Forest Operations and Techniques. Ljubljana, Yugoslavia.*

Anderson, P. and J. Sessions. 1986. Steep grades for temporary roads. logging industry research Association of New Zealand Technical Release, Vol. 8, No. 4, 3 pp.

Anderson, P., M. Pyles, and J. Sessions. 1986. Surfacing of steep low volume roads. Logging Industry Research Association of New Zealand Technical Release, Vol. 8, No. 6. 4 pp.

Sessions, J. 1986. Logical design for a network analysis system. Developed under contract R6-86-145A. Report on file at Division of Timber Management, USDA Forest Service, Portland, OR. 49 pp.

Wilbanks, S. and J. Sessions. 1985. Modeling running skyline performance based on the mechanical capability of the yarder. P. 63-67 *In: Proceedings, Improving mountain logging planning, techniques and hardware a joint symposium of the IUFRO, Mountain Logging Section and the Sixth Pacific Northwest Skyline Logging Symposium, May 8-11, 1985. Vancouver, B.C.*

Sessions, J., M.R. Pyles, and J.W. Mann. 1985. Structural analysis of second growth trees as tail spars. pp. 161-164. *In: Proceedings, Improving mountain logging planning, techniques and hardware, a joint symposium of the IUFRO Mountain Logging Section and the Sixth Pacific Northwest Skyline Logging Symposium, May 8-11, 1985. Vancouver, B.C.*

Sessions, J., M. Pyles, and J. Mann. 1985. Selection of Design Factors in Cable Logging. P. 75-78 *In: Proceedings, Forest operations in politically and environmentally sensitive areas. Council on Forest Engineering. Tahoe City, CA.*

Sessions, J. and J.W. Mann. 1985. Socioeconomic and environmental considerations in the selection of skidding technologies. *In: Proceedings, Ninth World Forestry Congress, Mexico City. 24 pp.*

Anderson, P. and J. Sessions. 1985. Gradeability and cost considerations in vehicle operations on steep roads. P 41-43 *In: Proceedings: Improving mountain logging planning, techniques and hardware, a joint symposium of the IUFRO Mountain Logging Section and the Sixth Pacific Northwest Skyline Logging Symposium, May 8-11, Vancouver, B.C.*

Sessions, J. 1985. Least cost analysis of timber sales. Research Agreement Supplement No. PNW-84-367. Report on file at Pacific Northwest Forest and Range Experiment Station, USDA Forest Service. Portland, OR. 41 pp.

Sessions, J. 1985. Network Analysis Using Microcomputers for Logging Planning. P 87-91 *In: Proceedings, Improving mountain logging planning, techniques and hardware, a joint symposium of the IUFRO Mountain Logging Section and the Sixth Pacific Northwest Skyline Logging Symposium, May 8-11, 1985. Vancouver, B.C.*

Sessions, J. 1984. Matching transportation to land use. *In: Proceedings, Forest Roads Conference. May 1-3, 1984. OSU, Corvallis. 17 pp.*

Sessions, J. 1984. Logging and transport analysis for the Sarapiquí forestry project. Technical report for project PNUD-FAO/COS/79/001 prepared for the Government of Costa Rica by FAO. On file, FAO, Rome, Italy 74 pp.

Sessions, J. 1978. Effects of harvesting technology upon optimal stocking regimes of forest stands in mountainous terrain. Ph.D. Dissertation, Oregon State University, Corvallis. 259 pp.

Sessions, J. 1977. Opportunities for small yarding equipment. P. 46-47 *In: Proceedings, New operating climate for the forest products industry in the Rocky Mountains. Rocky Mountain Forest Industries Conference, April 27-29. Salt Lake City, Utah.*

Sessions, J. 1977. The effect of carriage design on payload. Research Note 58, Oregon State University, Corvallis. 2 pp.

Sessions, J. 1976. Field measurement of skyline tensions for skyline logging systems. Research Paper 34, Oregon State University, Corvallis. 7 pp.

Wilson, R., D.P. Dykstra, and J. Sessions. 1976. A technique for the solution of catenary problems in surveying. Research Paper 35, Oregon State University, Corvallis. 9 pp.

Sessions, J. 1974. Logging techniques in the mountains of Jamaica, *Unasylva*. 26(105):18-22.

Sessions, J. 1974. Limiting vehicle velocities around circular curves, USDA Forest Service, *Field Notes*. 6(3):6-10.

Sessions, J. 1972. Skyline Logging - Implications for the Future. P.49-64 *In: Proceedings, Moving toward solutions in environmental forest products management. Rocky Mountain Forest Industries Conference, April 10-12. Fort Collins, CO.*

POSTERS

Mirkouei, A, K. Haapala, J. Sessions, and G. Murthy. 2016. Multi-criteria Decision Making for Sustainable Bio-Oil Production Using a Mixed Supply Chain. Graduate Student Research Expo. Portland Art Museum. March 1, 2016. Portland, OR.

K. Boston, J. Garland, B. Leshchinsky, W. Chung, J. Sessions, J. Wimer, T. Cushing and Laurel Kincl. 2016. Innovative Logging Systems to Reduce Injuries in the Logging Workforce. Western Regional Council on Forest Engineering. January 14, 2016. Eugene, Oregon.

Belart, F., J. Sessions, and G. Murphy. 2015. Seasonal changes in live branch moisture content of three forest species in the Pacific Northwest. Prepared for 2015 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 15-17, Spokane, WA.

Belart, F., B. Leshchinsky, and J. Sessions. 2015. Finite Element Analysis to Predict In-forest Stored Biomass Moisture Content. Prepared for 2015 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 15-17, Spokane, WA.

Zamora-Cristales, R., J. Sessions, and G. Marrs. 2015. Implications of Processing Green Versus Dry Residues for Aviation Fuel. Prepared for 2015 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 15-17, Spokane, WA.

Berry, M. and J. Sessions. 2015. Assessing Spatial Distribution and Availability of Forest Biomass by Harvesting System in the Pacific Northwest, USA. Prepared for 2015 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 15-17, Spokane, WA.

Daugherty, B. and J. Sessions. 2015. Improving Large Trailer Access For Biomass Recovery in Steep Terrain. Prepared for 2015 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 15-17, Spokane, WA.

Chen, Cindy, R. Zamora-Cristales, I. Ganguly, J. Sessions, and I. Eastin. 2015. Modeling Transportation Logistics of Forest Residue Removal: A Life-Cycle Assessment. 69th FPS International Convention, in Atlanta, on June 10-12, 2015.

Zamora R., and J. Sessions. 2014. Forest harvest residue and bioenergy research program at Oregon State University. 2014. Prepared for January 6, 2014 Annual Meeting Western Regional Council on Forest Engineering, Eugene, OR.

Leshchinsky, B., J. Sessions, and J. Wimer. 2014. Analytical Design Charts for Mobile Anchor Systems. Prepared for January 6, 2014 Annual Meeting Western Regional Council on Forest Engineering, Eugene, OR.

Zamora, R., P. Adams, and J. Sessions. 2014. Ground-Based Thinning on Steep Slopes in Western Oregon: Soil Exposure and Soil Strength Effects. Prepared for January 6, 2014 Annual Meeting Western Regional Council on Forest Engineering, Eugene, OR.

Zamora, R., J. Sessions, and D. Smith. 2013. Structured grinding tests: Increasing bulk density to decrease transportation costs. Prepared for 2013 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 10-12, Corvallis, OR.

Zamora, R., and J. Sessions. 2013. RENO: Residue evaluation and network optimization software. Prepared for 2013 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 10-12, Corvallis, OR.

Belart, F., J. Sessions, G. Murphy, M. Jolly and K. Tuers. 2013. Moisture management model for optimal forest biomass delivery in the Pacific Northwest. Prepared for 2013 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 10-12, Corvallis, OR.

Zamora, R., K. Boston, and J. Sessions. 2012. Activity-Based Stochastic Simulation of Mobile Chipper Productivity. Prepared for 2012 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 13-14, Missoula, MT.

Zamora, R. and J. Sessions. 2012. Economic Optimization of Forest Biomass Processing and Transport: A Decision Support System. Prepared for 2012 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 13-14, Missoula, MT.

Zamora, R., B. Flint, J. Sessions, L. Kellogg, and P. Adams. 2012. Ground-Based Thinning on Steep Slopes in Oregon: Productivity, Economics and Soil Compaction Effects. Prepared for 2012 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 13-14, Missoula, MT.

Zamora, R. and J. Sessions. 2012. Characteristics of NARA Forest Residue Sites. Prepared for 2012 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 13-14, Missoula, MT.

Zhu, J. Y., C. Zhang, J. Sessions, and R. Gleisner. 2012. Fractionation of Douglas-fir Forest Residues for Efficient Sugar Production. Prepared for 2012 Annual Meeting for the Northwest Advanced Renewables Alliance (NARA), Sept. 13-14, Missoula, MT.

Zamora, R., P. Adams, and J. Sessions. 2011. Soil impacts of mechanized harvesting on steep slopes. Poster prepared for national SAF meeting, Honolulu, HI, Nov 1-5, 2011.

Clark, J., K. Boston, and J. Sessions. 2010. An Approach to Analyze Cable Logging Profiles based on High Resolution Remotely Sensed Data. Poster prepared for Oregon Logging Congress, Eugene, Oregon, Feb. 25-27, 2010.

Clark, J., C. Schmidt, J. Sessions, and K. Boston. 2010. Potential Biomass Fuel for a 25 Megawatt Plant in Forest Grove, Oregon. Poster prepared for Oregon Logging Congress, Eugene, Oregon, Feb 25-27, 2010.

Chung, W., J. Sessions, D. Dykstra. 2008. ArcSNAP: A Scheduling and Network Analysis Program for Tactical Harvest Planning. Poster presented at the IUFRO All-D3-Conference: Pathways to Environmentally Sound Technologies for Natural Resource Use, June 15-20, 2008, Sapporo, Japan.

Sessions, J., K. Boston, J. Kiser, and D. Amishev. 2007. Reducing Harvesting Costs and Energy Consumption By Reducing Tree Water Content: Time to Consider the Options? International Mountain Logging and 13th Pacific Northwest Skyline Symposium, April 1-6, 2007, Corvallis, Oregon. Department of Forest Engineering, Oregon State University. Abstract on CD.

Sessions, J., K. Boston, R. Thoreson, and K. Mills. 2007. Strategies for managing rock aggregate from decommissioned, temporary, and intermittent use roads. Western Regional Council on Forest Engineering Seminar, *Improving Forest Harvesting Operations*, January 18, 2007, Eugene, Oregon.

Aruga, K., and J. Sessions. 2005. Forest road design with soil sediment evaluation using a high resolution DEM. IUFRO World Congress, Brisbane, August 7-13, 2005. Abstract also to be available in *International Forestry Review*.

Akay, A., J. Sessions, and O. Erdas. 2005. A decision support system for designing forest roads. 28th Council On Forest Engineering (COFE) Annual Meeting, Fortuna, CA, July 12-14, 2005.

Thompson, M., H. Stander, and J. Sessions. 2005. GUYLINE PC – A program to evaluate tensions in guylines on skyline towers. 28th Council On Forest Engineering Annual Meeting (COFE), Fortuna, CA, July 12-14, 2005.

Sessions, J. and A. Eklund. 2004. Tree value as a function of time since fire, logging system, and distance from road. Oregon Logging Conference, February 24-27.

Sessions, J. and S. Arbogast. 2003. Hastening Forest Regrowth on the Biscuit Fire. Prepared for Press Release of Biscuit Report, July 16, 2003 and Douglas County Fair, August, 3-5.

Chung, W. and J. Sessions. 2003. A computer-aided design method for cable logging layout. Prepared for the Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle.

Akay, A., and J. Sessions. 2003. Can Tracer help design forest roads? Prepared for the Second Precision Forestry Symposium, June 15-17, Institute of Forest Resources, College of Forest Resources, University of Washington, Seattle.

SOFTWARE

Zamora, R. and J. Sessions. 2015. **Pole Optimization.**

Sessions, J. 2007. **The Western Oregon BLM Plan Revision Model.**

Sessions, J. 2005. **The Harvest and Habitat Scheduling Models** (Oregon Department of Forestry).

Sessions, J. and J. Hamann. 2005. **The Jackson County Fire Hazard Assessment Model.**

Sessions, J. and J. Hamann. 2003. **The Biscuit Fire assessment model.** Developed for use in examining management options for forest regeneration, timber salvage, and fire and insect risk reduction. Report to Commissioner Doug Robertson, Chairman of the O&C Counties.

Sessions, J. 2003. **Connecticut Lakes**: A landscape-based program for evaluating harvest scheduling options for northeastern forests.

Akay, A. and J. Sessions. 2003. **TRACER**. A program to optimize forest road design nsidering construction, maintenance, transportation, and user safety.

Woodam Chung and J. Sessions. 2001. **NETWORK 2001**. A program to optimize fixed and variable cost transportation problems under multiple objectives. (beta version, December, 2001).

Woodam Chung and J. Sessions. 2000. **NETWORK 2000**. A program to optimize fixed and variable cost transportation problems.

Sessions, J. 2000. **Elliott Forest Planning Model**. A landscape-based program for evaluating harvest scheduling options on the Elliott State Forest.

Sessions, J. 2000. **Northwest Forest Planning Model**. A landscape-based program for evaluating harvest scheduling options on western forests of the Oregon Department of Forestry.

Sessions, J. 1998. **HELO**. A program for evaluating road and landing alternatives for helicopter logging. Department of Forest Engineering, Oregon State University.

Sessions, J. 1998. **Blodgett Forest Planning Model**. A simulated annealing approach to maintaining biodiversity and revenue on the Blodgett Research Forest under spatial constraints. Department of Forest Engineering, Oregon State University.

Sessions, J. **MRLAM**. 1998. A program for simulating and evaluating landscape ownership patterns considering ecological and harvest variables. World Forestry Center, Portland, OR.

Sessions, J., P. Bettinger, and K.N. Johnson **CLAMS**. 1997. A program for coastal landscape analysis and modeling simulations. Department of Forest Resources, Oregon State University. (in development).

Gabriel, J., J. B. Sessions, and J. Sessions. 1997. **ARC2SNAP**. A program for moving data from ArcInfo to SNAP and reports from SNAP to ArcInfo.

Sessions, J. 1996. **SAFE FORESTS**. A program for simulating forest growth, fire effects, timber harvest and watershed disturbance.

Sessions, J. and J.B. Sessions. 1995. **SNAP III** - A program for tactical harvest planning.

Sessions, J., J.B. Sessions and A. Juras. 1992. **LOGGERPC 3.0**. (1996, **LOGGERPC 3.1**) (2001 **LOGGERPC 4.0**) A tool for skyling planning.

Sessions, J. and J.B. Sessions. 1990, 1993. **SNAP II** - A program for tactical harvest planning.

Balcom, J. and J. Sessions. 1988. **TRUCKPC** - A program to model truck performance.

Sessions, J. and J.B. Sessions. 1988. **MAXLOAD** - A program to determine the maximum allowable load for highway vehicles.

Sessions, J. and J.B. Sessions. 1988. **SNAP** - A program for tactical harvest planning.

Sessions, J. and J.B. Sessions. 1988, 1993. **NETWORK II** - A program to optimize fixed and variable cost transportation problems.

Sessions, J. and J. Balcom. 1987, 1998. **SKIDPC** Version 1.1 - A program to estimate skidder performance (metric version) including forwarder and clam bunk skidder.

Sessions, J. and J.B. Sessions. 1987. **BUCK** - A program to optimize tree bucking.

Sessions, J. and J.B. Sessions. 1985. **PACE** - A program for production and cost analysis of forest operations.