

**Dr. Glen Murphy**  
CURRICULUM VITAE

**Summary of Professional Career:**

Dr Glen Murphy earned a Bachelor of Science (Forestry) degree from the Australian National University in 1974 and a PhD in Forest Engineering from Oregon State University in 1987. In 1990 he attended an intensive Executive Staff Course run by the New Zealand (NZ) Institute of Management.

For much of the time between 1974 and 1991 Dr. Murphy worked for the NZ Forest Research Institute in Rotorua, although during this time he also worked as an exchange scientist with Weyerhaeuser Company in Oregon, USA.

Between 1992 and 1997 Dr. Murphy was very active with three organizations simultaneously. He was the President of G.E. Murphy & Associates (a forestry consulting company), he was a professor in forest engineering with Lincoln University (New Zealand), and he was a senior research team leader for the New Zealand Forest Research Institute.

Between 1998 and 2001 Dr. Murphy led the Supply Chain Management Research Program for the New Zealand Forest Research Institute and was Manager of the New Zealand Logging Industry Research Organization.

In 2001 he accepted a position as a Professor in Forest Operations Analysis in the Department of Forest Engineering at Oregon State University. In 2008 he was named as the Stewart Professor in Forest Engineering at Oregon State University. He taught and undertook research in maximizing value capture, production economics, planning and control of forest operations. Dr. Murphy was also an Adjunct Faculty member of the University of Georgia.

In October 2012 he left Oregon State University to take up the Chair in Forestry position at Waiariki Institute of Technology in Rotorua, New Zealand. The role of the Chair in Forestry is to demonstrate professional leadership in the area of research and to provide quality teaching across agreed courses within the Faculty of Applied Technologies and Primary Industries.

Dr. Murphy is an internationally recognized and respected scientist. He has served on, or led, six international teams (International Union of Forest Research Organizations - Working Group Deputy Chairman 1990-91, International Energy Agency Bioenergy Project - Country Representative for NZ 1995-97, and FAO/Finland Consultation on Forest Harvest Training in Developing Countries - Country Representative for NZ 1990, Systems Analysis for Forest Resources Symposium – 2011 Chile, Precision Forestry in Advance Symposium – 2012 Australia, pan-European FLEXWOOD project science adviser – 2010-2012). Dr Murphy has been a science advisor to an Irish government funded wood energy project, and is currently a science advisor to the NZ Forest Growers Forest Research Committee, and to an Irish terrestrial laser scanning company.

Dr. Murphy is a prolific communicator. He has written over 220 scientific publications and reports and has published a book targeted at small forest woodlot owners. He has also been an invited speaker, trainer and consultant for numerous forestry meetings in New Zealand, Australia, USA, Canada, Ireland, Scotland, Belgium, Sweden, Finland, Fiji, South Africa, Uruguay and Chile. He is also an Associate Editor for International Journal of Forest Engineering and is on the editorial board of Journal of Science and Technology for Forest Products.

## **A. Education and Employment Information**

### **Education:**

- 1974* BSc(For), Australian National University
- 1976* Diploma of Industrial Engineering (Stage 1), Central Institute of Technology,  
New Zealand
- 1980* Diploma for completion of Forest Engineering Institute, Oregon State University
- 1982* "Teaching for Non-Teachers", Waiariki Institute of Technology
- 1987* PhD, Forest Engineering, College of Forestry, Oregon State University.  
An economic analysis of final log manufacturing locations in the steep terrain  
radiata pine plantations of New Zealand. Ph.D. thesis, 420pp.
- 1990* Executive Staff Officers Course, NZ Institute of Management

**Employment:**

*(Note: Dr. Murphy sometimes held two or more roles concurrently for a single organization and sometimes worked for two or more organizations concurrently).*

2012 – present

Professor and Chair in Forestry  
Waiariki Institute of Technology  
Rotorua, New Zealand

2001 - present

President and Consultant  
G.E. Murphy & Associates  
Corvallis, Oregon, USA and Rotorua, New Zealand  
Consultant to international forest industries in the areas of forest operations, economic evaluations, harvest planning, and value recovery.

2008-2009

Visiting Professor, University College Dublin, Ireland (7 months)  
Visiting Professor, Cooperative Research Centre for Forestry,  
Western Australia, Australia (5 months). (Sabbatical Leave).

2001 – 2012

Professor, Forest Operations Analysis  
Forest Engineering Department  
Oregon State University  
*(Stewart Professor in Forest Engineering since 2008)*  
Responsible for teaching undergraduate and postgraduate students, for supervising postgraduate students and for conducting forest engineering research relevant to PNW and international forestry communities.

2002 - 2012

Adjunct Professor  
Warnell School of Forest Resources  
University of Georgia  
Responsible for supervising postgraduate students in the area of harvesting systems and value recovery improvement.

2000 – 2001

Programme Manager  
Supply Chain Management Research Programme  
New Zealand Forest Research Institute Ltd  
Rotorua, New Zealand  
Responsible for leading a diverse team of researchers spanning resource assessment, value chain decision support systems, supply chain delivery and in-mill scanning and processing systems.  
Annual budget exceeded US\$2000K.

1999 – 2001

Manager – LIRO Forestry Solutions  
New Zealand Forest Research Institute Ltd  
Rotorua, New Zealand  
Responsible for leading the Logging Industry Research Organization through some very difficult times. The NZ forest

industry ceased to fund collaborative harvesting research in 1999. Alternative funding sources had to be developed and new research direction established.

*1998 – 2001*

Project Leader – Resource Assessment  
Project Leader – Supply Chain Logistics  
New Zealand Forest Research Institute Ltd  
Rotorua, New Zealand  
Responsible for leading two research teams with an annual budget of approximately US\$750K. Asked to relocate to the North Island of New Zealand to lead these two teams.

*1997*

South Island Operations Manager  
New Zealand Forest Research Institute Ltd.  
Christchurch, New Zealand  
Responsible for managing the 18 staff and facilities for NZFRI's South Island operations as well as undertaking personal research in the area of log scanning systems and value recovery.

*1997 - 2000*

Honorary Research Associate  
Lincoln University  
Canterbury, New Zealand  
Responsible for supervising post-graduate students in the areas of forest engineering, harvesting systems, supply chain logistics, log scanning and value recovery.

*1993 - 1997*

Reader in Forest Engineering  
Department of Natural Resources Engineering  
Lincoln University, Canterbury, New Zealand  
Responsible for teaching undergraduate and postgraduate classes (forest engineering, engineering economics, operations research) and for undertaking research in the areas of log scanning and value recovery.

*1993 - 1997*

Senior Scientist  
New Zealand Forest Research Institute Ltd.  
Christchurch, New Zealand  
Responsible for acting as a liaison between Lincoln University and FRI as well as undertaking personal research in the area of log scanning systems and value recovery.

*1992 - 1997*

President and Consultant  
G.E. Murphy & Associates  
Rotorua & Christchurch, New Zealand  
Consultant to the New Zealand and Chilean forest industries in the areas of forest operations, economic evaluations, harvest planning, and value recovery. Completed over 30 assignments during this period.

*1987 - 1991*

Research Field Leader  
Harvest Planning Group

New Zealand Forest Research Institute  
Rotorua, New Zealand

Responsible for leading a staff of 12 scientists and technicians who had the goal of increasing profitability through reducing costs and improving value recovery and efficiency in harvesting for the New Zealand forest sector. His personal research effort was focused around steep country harvesting and value recovery.

*1980 - 1987*

Scientist

Harvest Planning Group, New Zealand Forest Research Institute,  
Rotorua, New Zealand

Responsible for undertaking research in the areas of steep country harvesting, value recovery and the impacts of harvesting systems on the environment.

From 1984 to 1987 he attended Oregon State University where he earned a PhD degree in Forest Engineering.

*1979 – 1980*

Exchange Scientist

Douglas Fir Target Forest Thinning Project  
Research and Development Division  
Weyerhaeuser Company Ltd.  
Springfield, Oregon, USA

Responsible for undertaking research in the areas of production thinning systems for natural Douglas fir forests. Carried out engineering feasibility reports, production studies, economic analyses, environmental impact studies, etc. of a range of ground-based and cable logging systems. This work was done under an exchange program between FRI and Weyerhaeuser.

*1974 - 1979*

Scientist

Economics of Silviculture Research Field  
New Zealand Forest Research Institute  
Rotorua, New Zealand

Responsible for undertaking research in the area of steep country harvesting.

*1971 - 1974*

Summer Student

Genetics and Tree Improvement Research Station  
CSIRO

Traralgon, Victoria, Australia

Spent three summers, while undertaking a BSc(For) degree, working on the Research Station measuring and maintaining plots, summarizing data, assisting with the collection of cones and seed, etc.

## **B. Teaching, Advising and Other Assignments**

### Instructional Summary

Dr. Murphy has been fully responsible (F) for, or has been a guest lecturer (GL) for, courses at the following educational institutions:

- University of Canterbury, New Zealand (GL)
- Lincoln University, New Zealand (F)
- University of Auckland, New Zealand (GL)
- Australian National University, Australia (GL)
- University of Melbourne, Australia (GL)
- University on the Sunshine Coast, Australia (GL)
- University of Stellenbosch, South Africa (GL)
- University College Dublin, Ireland (GL)
- Waterford Institute of Technology, Ireland (GL)
- University Austral de Chile, Chile (F & GL)
- University of Chile, Chile (GL)
- University of British Columbia, Canada (GL)
- University of Montreal, Canada (GL)
- University Laval, Canada (GL)
- University of Washington, USA (GL)
- University of Idaho, USA (GL)
- University of Georgia, USA (GL)
- University of West Virginia, USA (GL)
- Clemson University, USA (GL)
- Virginia Polytechnic and State University, USA (GL)
- Oregon State University, USA (F & GL)
- Waiariki Institute of Technology, New Zealand (F & GL)

#### Advising

Over the past two decades Dr Murphy has served as the major professor or as an advising committee member for the following graduate students (shown in **bold** where Dr. Murphy is/was the major professor):

**Francisca Belart** (Oregon State University, PhD, 2016, Major Professor): Moisture management systems for woody biomass.

Krishna Poudel (Oregon State University, PhD, 2015, Committee Member): Forest mensuration and biometrics.

Benjamin Flint (Oregon State University, M.Sc. 2013, Committee Member): Biomass harvesting systems and scheduling for steep terrain.

Rene Zamora (Oregon State University, PhD. 2013, Committee Member): Evaluation and economic modeling of biomass supply chains.

Oguz Urhan (Oregon State University, M.Sc. 2013, Committee Member): Early genetic selection of trees based on acoustic measurement of wood stiffness.

**Fernando Becerra** (Oregon State University, M.Sc. 2012, Major Professor): Biomass moisture monitoring tool assessment.

**Dong-Wook Kim** (Oregon State University, M.Sc. 2012, Major Professor): Forecasting air drying rates of woody biomass in Oregon.

**Jennifer Barnett** (Oregon State University, M.Sc. 2012, Major Professor): Terrestrial laser scanning in poplar plantations.

Donald Gagliasso (Oregon State University, M.Sc. 2012, Committee Member): Evaluating the thematic and spatial accuracy of imputed forest biomass estimates.

Sichamba Kennedy (Oregon State University, M.Sc. 2012, Committee Member): Wood science and engineering.

Emily Pomeranz (Oregon State University, M.Sc. 2011, Graduate Council Representative): Attitudes and perceptions of voluntary codes of conduct in wilderness areas in Southeast Alaska.

Kyler Kokenge (Oregon State University, M.Sc. 2011, Committee Member): Opportunities and challenges for decision support systems in log truck scheduling and dispatching.

Jeremy Frank (Oregon State University, M.Sc. 2011, Committee Member): Mapping-grade GPS accuracy in second growth Douglas-fir forest.

Henk Stander (Oregon State University, Ph.D., 2011, Committee Member): Uncertainty, risk and forest management on the Tillamook State Forest: a case study.

**Sang-Kyun Han** (Oregon State University, Ph.D., 2011, Major Professor): Economics of forest biomass transportation systems.

**Bodie Dowding** (Oregon State University, M.Sc., 2010, Major Professor): Acoustic measurement of wood stiffness on a harvester head.

**Joshua Clark** (Oregon State University, Ph.D., 2009, Major Professor): Hemispherical photography and biomass assessment.

David DeVallance (Oregon State University, Ph.D., 2009, Committee Member): Non-destructive evaluation of veneer using optical scanning and ultrasonic stress wave analysis systems.

Dorian Calderon (Oregon State University, MF, 2008, Committee Member): Optimization of forest transportation for SKCC in Columbia.

**Francisca Belart** (Oregon State University, M.Sc., 2008, Major Professor): Real-time, in-forest measurement of log densities from chain saw chips using near infrared sensors.

**Dzhamal Amishev** (Oregon State University, Ph.D., 2008, Major Professor): In-forest log segregation based on acoustic measurement of wood stiffness.

Aaron Weiskettel (Oregon State University, Ph.D., 2008, Committee Member): Development of a hybrid model for intensively managed Douglas-fir plantations of the Pacific Northwest.

Emily Gonzalez (Oregon State University, M.Sc., 2008, Committee Member): Natural resources education and extension.

Chris Miwa (Oregon State University, M.Sc., 2007, Graduate Council Rep.): Soils and soil restoration of Western Juniper lands.

Karis McFarlane (Oregon State University, Ph.D., 2007, Committee Member): Forest soils and carbon cycling.

Ben Spong (Oregon State University, Ph.D., 2007, Committee Member): Decision framework for the implementation of appropriate logging techniques in Ethiopia and rural South Africa.

**Mauricio Acuna** (Oregon State University, Ph.D., 2006, Major Professor): Smart sensor technologies to improve optimal bucking and value recovery.

Chad Bolding (Oregon State University, Ph.D., 2006, Committee Member): Mechanized forest fuel reduction alternatives for forest managers.

Nate Meehan (Oregon State University, M.Sc., 2006, Committee Member): Effects of soils and climatic factors on long-term productivity of forests in response to timber harvesting methods.

**Hamish Marshall** (Oregon State University, Ph.D., 2005, Major Professor): Investigation of techniques to improve value recovery using mechanical harvesting systems.

Karina Bohle (Oregon State University, M.F., 2005, Committee Member): Applying GIS to improve forest harvesting production management.

Ian Conradie (University of Georgia, M.Sc., 2003, Committee Member): Cut-to-length harvesting systems in the southeastern USA: Value recovery and adoption by potential users.

Jared Leonard (Oregon State University, M.F., 2003, Committee Member): Applications of synthetic rope in logging.

Andrea Lalibert (Oregon State University, Ph.D., 2003, Graduate Council Rep.): Human influences in historical and current wildlife distributions - a spatial analysis of Lewis and Clark's observations.

Peter Matzka (Oregon State University, Ph.D., 2003, Committee Member): Thinning with prescribed fire and timber harvesting mechanization for fuels reduction and forest restoration.

Chinmaya Hardas (Oregon State University, M.Sc., 2003, Graduate Council Rep.): Component placement sequence optimization in printed circuit board assembly using genetic algorithms.

**Jane Huang** (Lincoln University, M.Applied Sc., 2000, Major Professor): The potential for using artificial neural networks to model radiata pine branch diameter distribution patterns.

**Xin Tian** (Lincoln University, PhD., 1999, Major Professor): An application of computer vision technologies to log defect determination.



**Paul Cossens** (Lincoln University, M.Applied Sc., 1996, Major Professor): Optimisation of short-term log allocation.

Matthew McKenzie (Lincoln University, M.Applied Sc., 1995, Committee Member): Assessment of Pinus radiata characteristics that may influence mechanised harvesting in the Nelson and Canterbury regions.

Tim Fleming (Lincoln University, M.Applied Sc., 1995, Committee Member): Constraints on harvesting and marketing a small woodlot for profit.

Shaun Killerby (University of Waikato, M.Social Sc., 1992, Committee Member): New Zealand timber harvesting scenic beauty analysis.

The students who completed their graduate studies that Dr. Murphy advised, either as their major professor or as a committee member, went on to (1) employment with industry in the USA, NZ or Chile (e.g., Barnett, Dowding, Leonard, Bohle, McKenzie, Fleming and Belart), (2) employment as a forestry consultant in NZ and Chile (e.g., Marshall, Conradie), (3) appointments as a university professor or scientist at research institutions in the USA, Australia, NZ and China (e.g., Clark, Spong, Bolding, McFarlane, Matzka, Han, Acuna, Amishev, Cossens, and Tian), or (4) further academic study in USA, Canada and NZ (e.g. Kim, Huang and Killerby).

### C. Scholarship and Creative Activity

#### Publication List Summary

Publications on the following pages have been split into seven categories:

- Peer-Reviewed Journal Publications
- Other Peer-Reviewed Publications
- Books and Book Chapters
- Other Professional and Non-Forestry Publications
- International Conference Publications
- National Conference Publications
- Presentations (after 2001, no detailed record was kept before 2001)

Category	Total Publications for Career*
Peer-Reviewed Journal Publications	83_1R
Other Peer-Reviewed Publications	15
Books and Book Chapters	6
Other Professional and Non-Forestry Publications	55
International Conference Publications	47
National Conference Publications	17
Presentations (since 2001)	50
<b>Totals</b>	<b>273_1R</b>

\* IR = papers currently in review. Totals do not include consultancy reports prepared for industrial clients or government agencies. Nor do they include presentations given between 1975 and 2001.

In addition to these publications more than 50 confidential consultancy reports or proprietary research reports have been written or coauthored by Dr. Murphy for international forest industry and local government clients. The confidential reports produced as a result of this work are not shown in the publication lists below.

#### Peer-Reviewed Journal Publications

**Murphy G.E.** (in review). Optimising log storage and handling in New Zealand ports. **International Journal of Logistics Research and Applications**. (submitted August 2015):

**Murphy G.E.**, and Cown D. 2015. Within tree, between tree and geospatial variation in estimated *Pinus radiata* bark volume and weight in New Zealand. **New Zealand Journal of Forestry Science**. (accepted September 2015):

**Murphy G.E.**, and Logan O. 2015. Radiata pine bark removal associated with two on-landing, log processing methods. **Forest Products Journal**. (accepted September 2015)

**Murphy G.E.**, and Williams L. 2015. Plantation forestry and dairy farming land use impacts on potential wear of rural roads. **International Journal of Forest Engineering** 26(2): 139-145.

**Murphy G.E.**, and Cown D. 2015. Stand, stem and log segregation based on wood properties: a review. **Scandinavian Journal of Forest Research**. 30(8):757-770.  
(<http://dx.doi.org/10.1080/02827581.2015.1055791>.)

Zamora, R., Sessions, J., Boston, K., and **Murphy, G.E.** 2015 Economic optimization of forest biomass processing and transport in the Pacific Northwest USA. **Forest Science** 61(2): 220-234.  
(<http://dx.doi.org/10.5849/forsci.13-158>).

**Murphy, G.E.** 2014. Priority list bucking on a mechanized harvester considering external properties and stiffness of Douglas-fir. **International Journal of Forest Engineering** 25(3): 214-221.  
(<http://dx.doi.org/10.1080/14942119.2014.973177>.)

**Murphy, G.E.**, Marshall, H, and Dick, A. 2014. Time of day impacts on machine productivity and value recovery in an off-forest central processing yard. **New Zealand Journal of Forestry Science** 59(3): 11-17.

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

Zamora, R., Sessions, J., **Murphy, G.E.**, and Boston, K. 2013. Economic impact of truck- machine interference in forest biomass recovery operations on steep terrain. **Forest Products Journal** 63(5/6): 162-173.

Paradis, N. and **Murphy, G.E.** 2013. Effects of sweep in hybrid poplar on acoustic velocity at the tree level. **New Zealand Journal of Forestry Science** 43:7 doi:10.1186/1179-5395-43-7

**Murphy, G.E.** 2013. International trends in forestry education. **New Zealand Journal of Forestry** 58(1): 24-28.

Passicot, P. and **Murphy, G.E.** 2013. Effect of work schedule design on productivity of mechanized harvesting operations in Chile. **New Zealand Journal of Forestry Science** 43(2): doi:10.1186/1179-5395-43-2

Barnett, J. and **Murphy, G.E.** 2013. Accuracy of automated assessment of sweep in standing hybrid poplar trees using terrestrial laser scanning. **Forest Products Journal** 62(7-8): 500-506.

Kim, D.W. and **Murphy, G.E.** 2013. Forecasting air drying rates of small Douglas-fir and hybrid poplar stacked logs in Oregon, USA. **International Journal of Forest Engineering** 24(2): 137-147.

**Murphy, G.E.**, Kent, T., and Kofman, P.K. 2013. Modeling air-drying of Sitka Spruce (*Picea sitchensis* B.Bong, Carr) biomass in off-forest storage yards in Ireland. **Forest Products Journal** 62(6): 443-449.

**Murphy, G.E.** 2012. Evaluation of an occlusion adjustment model for predicting hidden stems when using terrestrial laser scans in natural and plantation forests in Australia and USA. **New Zealand Journal of Forestry Science** 42: 57-63.

Han, S.K. and **Murphy, G.E.** 2012 Solving a woody biomass truck scheduling problem for a transport company in Western Oregon, USA. **Biomass and Bioenergy** 44: 47-55.

**Murphy, G.E.**, Clark, J., and Pilkerton, S. 2012. Current and potential tagging and tracking systems for logs harvested from Pacific Northwest forests. **Western Journal of Applied Forestry** 27(2): 84-91.

Han, S.K. and **Murphy, G.E.** 2012. Predicting the loaded travel times of highway woody raw materials hauling trucks for improved forest biomass utilization. **Western Journal of Applied Forestry** 27(2): 92-99.

Han, S.K. and **Murphy, G.E.** 2012. Trucking productivity and costing model for transportation of woody biomass. **Forest Products Journal** 61(7): 552-560.

Dowding, B., and **Murphy, G.E.** 2011. Estimating spatial changes in acoustic velocity in felled Douglas-fir stems. **International Journal of Forest Engineering** 22(1): 24-34.

**Murphy, G.E.**, and Pilkerton, S.J. 2011. Seasonal impacts on bark loss by mechanized processors in Oregon. **International Journal of Forest Engineering** 22(1): 35-41.

**Murphy, G.E.**, and Acuna, M.A. 2011. Ranking of four contributions to error in stand level Douglas fir log supply and value recovery estimation. **Canadian Journal of Forest Research**. 41(10): 2040-2050.

Clark, J. and **Murphy, G.E.** 2011. Estimating forest biomass components with hemispherical photography for Douglas-fir stands in northwest Oregon. **Canadian Journal of Forest Research**. 41(5): 1060-1074.

**Murphy, G.E.**, and Pilkerton, S.J. 2011. Seasonal impacts of bark loss on simulated payloads, bark delivery and transport costs. **Forest Products Journal** 61(1):71-76.

- Hamsley, A., Greene, D., Baker, S. and **Murphy, G.E.** 2010. Individual stem value recovery of modified and conventional tree-length systems in the southeastern United States. **International Journal of Forest Engineering** 21(1):7-11.
- Murphy, G.E.**, Acuna, M. and Dumbrell, I. 2010. Tree value and log product yield determination in radiata pine plantations in Australia: comparisons of terrestrial laser scanning with a forest inventory system and manual measurements. **Canadian Journal of Forest Research** 40(11): 2223-2233.
- Murphy, G.E.**, Lyons, J., O'Shea, M., Mullooly, G., Keane, E., Devlin, G. 2010. Management tools for optimal allocation of wood fibre to conventional and bioenergy markets in Ireland. **European Journal of Forest Research** 129(6):1057-1067.
- Murphy, G.E.**, Brownlie, R.K., Kimberley, M., Beets, P. 2009. Impacts of forest harvesting related soil disturbance on end-of-rotation wood quality and quantity in a New Zealand radiata pine forest. **Silva Fennica** 43(1): 147-160.
- Amishev, D., **Murphy, G.E.** 2009. Estimating breakeven prices for Douglas-fir veneer quality logs from stiffness-graded stands using acoustic tools. **Forest Products Journal** 59(4):45-52.
- Amishev, D., **Murphy, G.E.** 2008. Implementing acoustic technology on mechanical harvesters/processors for real-time wood stiffness assessment: opportunities and considerations. **International Journal of Forest Engineering** 19(2):49-57.
- Amishev, D., **Murphy, G.E.** 2008. In-forest assessment of veneer grade Douglas-fir logs based on acoustic measurement of wood stiffness. **Forest Products Journal** 58(11):42-47.
- Amishev, D., **Murphy, G.E.** 2008. Pre-harvest veneer quality evaluation of Douglas-fir stands using time of flight acoustic technique. **Wood and Fiber Science** 40(4):587-598.
- Murphy, G.E.** 2008. Determining stand value and log product yields using terrestrial lidar and optimal bucking: a case study. **Journal of Forestry** 106(6):317-324.
- Murphy, G.E.**, Amishev, D. 2008. Effects of bark removal on acoustic velocity of Douglas-fir logs. **New Zealand Journal of Forestry Science** 38(2/3):247-252.
- Murphy, G.E.**, Gordon, A., Marshall, H.D. 2007. Adaptive control of bucking in a Douglas-fir stand: adjustment frequency effects. **New Zealand Journal of Forestry Science**. 37(3):372-382.
- Acuna, M., **Murphy, G.E.** 2007. Uso de espectroscopia de infrarojo y analisis multivariado para predecir la densidad de la madera de pino oregon. **Bosque** 28(3): 187-197.
- Murphy, G.E.**, Vanderberg, M. 2007. Modelling the economics of extended shift and 24/7 forest harvesting. **New Zealand Journal of Forestry**. 52(2):14-19.
- Murphy, G.E.**, H. Stander. 2007. Robust optimization of forest transportation networks: a case study **Southern Hemisphere Forestry Journal** 69(2):117-123.
- Toman, E., Skaugset, A., **Murphy, G.E.** 2007. An analysis of the opportunity costs with wet weather timber hauling. **International Journal of Forest Engineering** 18(1):17-23.

- Acuna, M., **Murphy, G.E.** 2007. Estimating log prices of Douglas-fir through a financial analysis of the effects of wood density on lumber recovery and pulp yield. **Forest Products Journal** 57(3):60-65
- Acuna, M., **Murphy, G.E.** 2006. Use of near infrared spectroscopy and multivariate analysis to predict wood density of Douglas-fir from chain saw chips. **Forest Products Journal** 56(11/12):67-72.
- Murphy, G.E.**, Acuna, M., Amishev, D. 2006. Adaptive control of bucking on harvesters: target and timing effects. **Forest Products Journal** 56(11/12):79-83.
- Marshall, H.D., **Murphy, G.E.**, Gartner, B. 2006.) Effects of bark thickness on optimal log merchandizing. **Forest Products Journal** 56(11/12):87-92.
- Marshall, H., **Murphy, G.E.**, Boston, K. 2006. Evaluation of the economic impacts of length and diameter measurement error on mechanical processor/harvesters. **Canadian Journal of Forest Research** 36: 1661-1673.
- Marshall, H.D., **Murphy, G.E.**, Boston, K. 2006. Three mathematical models for bucking-to-order. **Silva Fennica** 40(1):127-142.
- Acuna, M., **Murphy, G.E.** 2006. Geospatial and within tree variation of wood density and spiral grain in Douglas-fir. **Forest Products Journal** 56(4):81-85.
- Murphy, G.E.**, Wilson, I., Barr, B. 2006. Developing methods for pre-harvest inventories which use the harvester as the sampling tool. **Australian Journal of Forestry** 69(1):9-15.
- Acuna, M., **Murphy, G.E.** 2005. Optimal bucking of Douglas-fir taking into consideration external properties and wood density. **New Zealand Journal of Forestry Science** 35(2/3):139-152.
- Murphy, G.E.** 2005. Determining sample size for harvesting cost estimation. **New Zealand Journal of Forestry Science** 35(2/3):166-169.
- Carey, P., **Murphy, G.E.** 2005. Mechanised versus motor-manual log-making in two Chilean *Pinus radiata* stands. **New Zealand Journal of Forestry Science** 35(1):25-34.
- Murphy, G.E.**, Marshall, H., Evanson, T. 2005. Production speed effects on log-making error rates and value recovery for a mechanized processing operation in *Radiata pine*. **Southern African Forestry Journal** 204:23-35.
- Murphy, G.E.**, Sutton, W.R.J., Hill, D., Chambers, C., Binkley, C., Creel, D., New, D. 2005. Economics of intensively managed plantation forestry in the Pacific Northwest. **Journal of Forestry** 103(2):78-82.
- Marshall, H., **Murphy, G.E.** 2004. Economic evaluation of implementing improved stem scanning systems on mechanical harvester/processors. **New Zealand Journal of Forestry Science** 34(2):158-174.
- Murphy, G.E.**, Wing, M. 2005. Road sediment yields from dispersed versus clustered forest harvesting activity: a case study. **International Journal of Forest Engineering**, 16(2):65-72.
- Conradie, I., Greene, D., Cox, J., **Murphy, G.E.** 2005. Applying the thinking process of the theory of constraints: an exploratory research methodology to evaluate the lack of use of cut-to-length harvesting systems in the Southeastern USA. **Journal of Forest Products Business Research**. Volume 2, Article 1.

Hayes, J.P., Schoenholtz, S.H., Hartley, M.J., **Murphy, G.E.**, Powers, R.F., Berg, D., Radosevich S.R. 2005. Environmental consequences of intensively managed forest plantations in the Pacific Northwest. **Journal of Forestry** 103(2):83-87.

**Murphy, G.E.**, Marshall, H., Bolding, M.C. 2004. Adaptive control of bucking on harvesters to meet order book constraints. **Forest Products Journal** 54(12):114-121.

Conradie, I., Greene, W.D., **Murphy, G.E.** 2004. Value recovery with harvesters in southeastern USA pine stands. **Forest Products Journal** 54(12):80-84.

**Murphy, G.E.**, Firth, J., Skinner, M.F. 2004. Long-term impacts of forest harvesting related soil disturbance on log product yields and economic potential in a New Zealand forest. **Silva Fennica** 38(3):279-289.

**Murphy, G.E.**, Firth, J. 2004. Soil disturbance impacts on early growth and management of radiata pine trees in New Zealand. **Western Journal of Applied Forestry** 19(2):109-116.

**Murphy, G.E.**, Marshall, H., Conradie, I. 2004. Market complexity and its effect on variables that gauge the economics of harvesting production. **New Zealand Journal of Forestry Science** 33(2):281-292.

**Murphy, G.E.**, Franich, R. 2004. Early experience with aroma tagging and electronic nose technology for log tracking. **Forest Products Journal** 54(2):28-35.

**Murphy, G.E.** 2003. Reducing trucks on the road through optimal route scheduling and shared log transport services. **Southern Journal of Applied Forestry** 27(3):198-205.

**Murphy, G.E.** 2003. Procedures for scanning radiata pine stems dimensions and quality on mechanised processors. **International Journal of Forest Engineering**. 14(2):11-21.

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Cossens G.P., **Murphy G.E.** 1995. New tools and techniques for managing value from plantation forests. **NZ Institute of Forestry Conference Proceedings**, Taupo, 1995. pp. 125-142.



Lane, D., **Murphy G.E.** 1995. A multi-image digital photogrammetry tool for tree stem geometry and quality assessment **Proceedings of ImageVision & Computing NZ 1995., Industrial Research Limited.** pp. 49-54.

**Murphy, G.E.** 1994. Image scanning and processing of Pinus radiata logs: progress report on mosaicing of forestry video images. **Lincoln University (Internal Report)**, Lincoln, New Zealand. 17 p.

**Murphy, G.E.,** Gayoso, J. 1992. Chilean experience with mid-size haulers. In: Harvesting and Re-establishment on Difficult Terrain. **NZ Logging Industry Research Organisation Annual Seminar Proceedings.** 12 p.

**Murphy, G.E.** 1989. The effects of felling and processing practices on value recovery. In: "Cable Logging". **NZ Logging Industry Research Association Annual Seminar.** 19 p.

**Murphy, G.E.** 1989. Computer models to assist planners and loggers in decision-making. In: "Cable Logging". **NZ Logging Industry Research Association Annual Seminar.**

Evanson, A., **Murphy, G.E.** 1988. Cost/Benefit Analysis and Sensitivity Analysis of Centralised Processing Yards using Spreadsheets. In: "Centralised Processing Yard Workshop" held Oct 26 and 27, 1988 in Masterton. **NZ Forest Research Institute**, Rotorua.

**Murphy, G.E.** 1988. Design of centralised processing yards. In: "Centralised Processing Yard Workshop" held October 26 and 27, 1988 in Masterton., **NZ Forest Research Institute**, Rotorua.

**Murphy, G.E.** 1987. Economic analysis of log manufacturing locations in steep terrain plantations. In: "Logging Roads and Trucks". **NZ Logging Industry Research Association Annual Seminar.**

**Murphy, G.E.** 1983. Impact of harvesting on value recovery. In: "Research and Development in Tree Harvesting and Transportation". Proceedings of a seminar held in Rotorua, June 1983. **NZ Logging Industry Research Association.**

**Murphy, G.E.** 1983. Impact of harvesting on site productivity. In: "Research and Development in Tree Harvesting and Transportation". Proceedings of a seminar held in Rotorua, June 1983. **NZ Logging Industry Research Association.** 6 p.

Verbal Conference Presentations (no written publication) (since 2001)

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

de Miguel Muñoz, A., Kent, T., Sottocornola, M., and **Murphy, G.E.** 2015. An investigation of the economic potential of Short Rotation Forestry for fibre and fuel in Ireland. National Postgraduate Research Symposium, Waterford Institute of Technology, Waterford, Ireland. April 2015.

**Murphy, G.E.** 2015. Optimizing on-wharf log storage and handling. College of Forestry Seminar, Oregon State University, Corvallis, Oregon, USA, May 2015.

**Murphy, G.E.** 2015. Current and emerging technologies for aligning customers' and suppliers' needs. Australia New Zealand Institutes of Forestry Conference, Creswick, Victoria, Australia, April 2015.

Belart, F., Sessions, J., **Murphy, G.**, Jolly, M., Leshchinsky, B., Tuers, K. 2014. Moisture management model for optimal forest biomass delivery in the Pacific Northwest. Poster presented at 2014 Western Forestry Graduate Research Symposium, Oregon State University, Corvallis, OR.

**Murphy, G.E.** 2014. International trends in productivity and safety: is New Zealand keeping pace? New Zealand Institute of Forestry Conference, Napier, July 2014.

**Murphy, G.E.** 2014. Maximising value capture from the current resource. Growing Confidence in Future Forests Conference, Rotorua, June 2014.

**Murphy, G.E.** 2014. Managing wood quality variation: is segregation the solution? Scion Wood Quality Workshops, Christchurch and Rotorua, May 2014.

**Murphy, G.E.** 2013. Shift length and time of day impacts on forest operations productivity and value recovery in southern hemisphere plantations. ForestTech 2013 Conference, Rotorua, November 2013.

**Murphy, G.E.** 2013. Effect of daily working hours on productivity and economics of mechanized harvesting operations. Scion Forestry Science Seminar Series. October 30, 2013.

**Murphy, G.E.** 2013. How to develop and collaborate on internationally relevant research projects. Quality Teaching and Research Conference, Waiariki Institute of Technology, Rotorua. September 2013.

**Murphy, G.E.**, and Wimer, J. 2013. Oregon logging productivity and cost estimation workshop. Four workshops held in May 2013.

**Murphy, G.E.** 2012. Maximizing value recovery along the forest to mill supply chain. Workshop presented to Forestry Plantations Queensland staff, March 2012.

Keane, E. and **Murphy, G.E.** 2012. Cloud computing: use of intelligent data, real-time analytics and a simple-to-use web platform for inventory and harvest planning. ForestTech 2012 Conference, Rotorua, December 2012.

**Murphy, G.E.** 2012. International developments in mechanized harvesting: challenges and opportunities. NZ Farm Forestry Association (BOP) meeting. Rotorua, November 2012.

Belart, F., **Murphy, G.E.**, and Passicot, P. 2012. Work schedule design impacts on harvesting productivity and costs in Chile. COFE Annual Conference, New Bern, North Carolina. September 2012. (Poster)

**Murphy, G.E.**, Kent, T. and Kofman, P.D. 2012. Forecasting air-drying rates of woody biomass in Ireland and Oregon. Oregon SAF conference, Seaside, Oregon. April 2012. (Poster)

**Murphy, G.E.**, and Passicot, P. 2012. Work schedule design impacts on harvesting productivity and costs in Chile. Oregon SAF conference, Seaside, Oregon. April 2012. (Poster)

**Murphy, G.E.**, and Barnett, J. 2012. Estimating poplar plantation stand value and log product yields using terrestrial laser scanning and optimal bucking. Oregon SAF conference, Seaside, Oregon. April 2012. (Poster)

**Murphy, G.E.**, Kent, T. and Kofman, P.D. 2012. Forecasting and monitoring moisture of woody biomass in Ireland and Oregon. Precision Forestry in Advance Symposium, Mount Gambier, Australia. March 2012.

**Murphy, G.E.** and Passicot, P. 2012. Work schedule design impacts on harvesting in Chile. Precision Forestry in Advance Symposium, Mount Gambier, Australia. March 2012.

**Murphy, G.E.** 2012. New sensor technologies and analytical tools for precision forest management. University on the Sunshine Coast, Australia. March 2012.

**Murphy, G.E.** 2012. How to control costs to control profits. Western Region COFE meeting, Eugene, Oregon, January 2012.

**Murphy, G.E.** and Acuna, M. 2011. Ranking four sources of error in stand value and log product yield estimation. University of Melbourne Masters Course. July 8 2011. (presented by M. Acuna)

**Murphy, G.E.**, Barnett, J., and Summers, B. 2011. Estimating poplar plantation stand value and log product yields using terrestrial laser scanning and optimal bucking. Timber Measurement Society Conference, Tacoma, WA. April 2011.

**Murphy, G.E.** and Acuna, M. 2011. Ranking of four sources of error in stand value and log product yield estimation. Systems Analysis in Forest Resources Conference, Chile. March 2011. (keynote address)

**Murphy, G.E.**, Barnett, J., and Summers, B. 2011. Estimating poplar plantation stand value and log product yields using terrestrial laser scanning and optimal bucking. Systems Analysis in Forest Resources Conference, Chile. March 2011. (keynote address)

**Murphy, G.E.** 2011. Value recovery: optimizing what you have grown. Intensive Silviculture in Planted Douglas-fir Forests Workshop. Portland, Oregon, February 2011.

**Murphy, G.E.** 2011. Value capturing opportunities in the forest-to mill supply chain. Western Region COFE meeting, Eugene, Oregon, January 2011.

Little, J., Keane, E., Mullooly, G., **Murphy, G.E.** 2010. Improved timber recovery using enhanced information and optimization. INFORMS Conference, Austin, Texas, November 2010.

**Murphy, G.E.** 2010. New sensor technologies and analytical tools for precision forest management. Keynote talk. Precision Forestry Symposium. Stellenbosch, South Africa. March 2010.

**Murphy, G.E.** and Acuna, M. 2010. Stand value and log product yield determination using terrestrial lidar and optimal bucking: experiences in Oregon, Ireland and Australia. Precision Forestry Symposium. Stellenbosch, South Africa. March 2010.

**Murphy, G.E.** 2009. New sensor technologies for forest data collection. IUFRO Division 4.01 conference. Mount Gambier, South Australia, Australia. August 2009.

**Murphy, G.E.** 2009. Determining radiata pine tree and log product yields using terrestrial lidar and optimal bucking in South Australia. IUFRO Division 4.01 conference. Mount Gambier, South Australia, Australia. August 2009.

- Murphy, G.E.** 2008. Mechanised harvesting in commercial plantation forests: challenges and opportunities. Keynote paper at the **Focus on Forest Engineering Conference**. Punta del Este, Uruguay. November 2008.
- Murphy, G.E.,** Belart, F. 2008. The economic impacts of extended shift and 24/7 forest harvesting. **Western Region Council on Forest Engineering Meeting**. Eugene, Oregon. January 2007.
- Murphy, G.E.,** Belart, F. 2008. The economic impacts of extended shift and 24/7 forest harvesting. **Western Region Council on Forest Engineering Meeting**. Chehalis, Washington, March 2008.
- Murphy, G.E.** 2007. Capturing additional value through in-forest measurement of internal log properties. **IUFRO Conference on Forest Growth and Timber Quality**. Portland, Oregon. August 2007.
- Murphy, G.E.,** Vanderberg, M. 2007. Modeling the economic impacts of extended shift and 24/7 forest harvesting. **3<sup>rd</sup> International Forest Engineering Conference**, Mont Tremblant, Canada. October 2007.
- Murphy, G.E.** 2004. Preharvest vs harvester-based inventory methods. **Production Forestry Workshop, Expocorma**, Concepcion, Chile. November 2004.
- Murphy, G.E.** 2004. Mechanization and value recovery: worldwide experience. **Production Forestry Workshop, Expocorma**, Concepcion, Chile. November 2004.
- Marshall, H., Boston, K., **Murphy, G.E.** 2004. Modeling effect of measurement error on optimal bucking. In: **INFORMS Conference**, Denver, Colorado, October 2004.
- Murphy, G.E.,** Adams, P. 2004. Harvest planning to sustain value along the forest-to-mill supply chain. **Productivity of Western Forests Conference**, Kamilche, Washington, September 2004.
- Murphy, G.E.,** Marshall, H., Acuna, M. 2004. Improving value recovery in the forest-to-mill supply chain. **2004 International Mountain Logging Conference**, Vancouver, Canada, poster presented June 2004.
- Murphy, G.E.** 2003. Early experience with aroma tagging and electronic nose technology for log and wood product tracking. **2nd Precision Forestry Conference**, Seattle, Washington, June 2003.
- Murphy, G.E.,** H. Marshall, B. Hock 2003. Meeting order book constraints by adaptive control of bucking on harvesters. **Symposium on Systems Analysis for Forest Resources**, Stevenson, Washington, October 2003.
- Marshall, H., West, G., **Murphy, G.E.** 2003. Extracting the most from the resource. **2nd Precision Forestry Conference**, Seattle, Washington, June 2003.
- Marshall, H., **Murphy, G.E.,** Bolding, M.C. 2003. Optimally bucking a stand of trees to meet order book constraints. **Forest Products Conference**, Seattle, Washington, June 2003.
- Murphy, G.E.** 2003 Impacts of heavy equipment on soil properties and tree growth: New Zealand experiences. **Northwest Forest Soils Council Winter Technical Meeting**, Seattle, Washington, January 2003.
- Marshall, H. **Murphy, G.E.** 2003. Accuracy and integrity of weighbridge systems in the forest industry. **Inland Empire Logging Conference**, Moscow, Idaho. February 2003.

**Murphy, G.E.** 2002. Production economics of mechanized cut-to-length systems. **Weyerhaeuser Western Timberland Forest Engineering Forum**, Kelso, Washington, March 2002.

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*No verbal presentations given before 2001 were included since no record has been kept of these.*

#### Professional Meetings, Symposia and Conferences

Over a career spanning more than 40 years there have been many professional meetings, symposia and conferences that Dr. Murphy has attended either as an invited speaker, presenter, chair or country representative. Session chairs typically have responsibility for identifying and inviting speakers to fulfill a theme identified by the planning committee. A sample of those where Dr. Murphy has acted as a session chair or country participant are provided below:

- Keynote speaker, Forest Engineering Conference, South Africa, 2014.
- Keynote speaker, Systems Analysis in Forest Resources Conference, Chile, March 2011.
- Keynote speaker, Precision Forestry Conference, South Africa, 2010.
- "New sensor technologies for forest data collection", speaker and session chair, IUFRO Precision Forestry Symposium, Mount Gambier, Australia, 2009.
- Keynote speaker, International Forest Engineering Conference, Punta del Este, Uruguay, November 2008.
- Keynote speaker, Forest Engineering Group Annual Conference, Cumbernauld, Scotland, October 2008
- "Global competitiveness", International Mountain Logging Symposium, Corvallis, Oregon, April 2007. (Session Chair).
- "Decision support systems, data and information requirements", IUFRO Precision Forestry Symposium, Stellenbosch, South Africa, March 2006 (Session Chair).
- "Delivering what the customer wants", Timber Production and Harvesting Technical Interest Group, Forest Products Society Annual Conference, Grand Rapids, Michigan, June 2004. (Session Chair).
- "Economic costs and benefits of intensively managed plantations", Plantation Forestry Symposium, Portland, Oregon, January 2004. (Session Chair)
- "Tools and technologies to improve log segregation and tracking", Timber Production and Harvesting Technical Interest Group, Forest Products Society Annual Conference, Seattle, Washington, June 2003. (Session Chair).
- "Design tools and decision support systems", 2nd Precision Forestry Conference, Seattle, Washington, June 2003 (Session Chair).
- "Managing the changing size of business", LIRO Annual Conference, Hastings, New Zealand, November 2000. (Session Chair).
- "A stable, keen and healthy workforce", LIRO Annual Conference, Hastings, New Zealand, November 2000. (Session Chair).
- "Supply chain logistics models", LIRO Annual Conference, Rotorua, New Zealand, November 1997. (Session Chair).
- FAO/Finland Consultation on Forest Harvesting Training in Developing Countries. Country representative for New Zealand, Kotka, Finland, April 1990.

## Evidence of Scientific Achievement

Five prominent, internationally renowned scientists were asked in 2002 to review Dr. Murphy's qualifications related to the criteria for employment-based USA residency as an "outstanding professor and researcher" as part of the documentation required by the Immigration and Naturalization Service for permanent residency application. Their testimony is included to document the significant contributions that Dr. Murphy has made to the scientific community around the world.

The reviewers came from five different countries; USA, Chile, New Zealand, Australia and South Africa. All five attest to the accomplishments that distinguish Dr. Murphy's career as an outstanding professor and researcher with a very strong international profile. Excerpts from each of the letters are provided below.

Professor Dale Greene, from the School of Forest Resources at the University of Georgia, is a highly respected and published scientist in the field of forest engineering. He writes: *"Dr. Murphy is indeed an outstanding scholar of international renown. .... He has authored over 100 publications. Many are regarded as ground-breaking works in their area. .... Dr. Murphy is a person of the highest moral character and embodies characteristics of hard work and civility that Americans cherish."*

Professor Andres Weintraub from the Department of Industrial Engineering at the University of Chile is the President of the International Federation of Operations Research Societies, the 1998 recipient of the very prestigious and internationally recognized Franz Edelman award, and the 2000 recipient of the Chilean National Prize for Applied Science and Technology. He writes: *"[Dr. Murphy] is very well known internationally for his work. His contributions ... have had a wide impact not only [in New Zealand], but worldwide. The systems and models he has developed as project leader are of outstanding quality and have served as models for other institutions in several countries. ... Dr. Murphy is considered among the top researchers worldwide in our field."*

Dr. Michal Brink has over 20 years of experience in forest engineering in South Africa and is the Deputy Coordinator of the Harvesting and Product Quality Working Unit of the International Union of Forest Research Organizations. He also recently completed an international review of trends in harvesting systems. He writes: *"[Dr. Murphy] is well established as one of the outstanding professionals within the international forest engineering fraternity and has published widely. .... [He] was selected on a panel of 15 world experts to review global trends in timber harvesting systems. .... During 2001, Dr. Murphy was [also] selected by SAFCOL [South Africa Forest Company Limited] ... to review their harvesting operations ... after a worldwide search for the most appropriate persons."*

Dr. Frank Wood was the Vice-Chancellor (= President) of Lincoln University in New Zealand. Prior to that he was the Chief Executive Officer of the New Zealand Forest Research Institute (NZFRI); one of the largest forestry research organizations in the Southern Hemisphere. He writes: *"[Dr. Murphy] was one of the New Zealand Forest Research Institute's outstanding scientists. ... [He] was often called upon to represent the Institution in public meetings, in seminars and in critical Government policy development forums. ... The [NZFRI] has a history of international involvement: in research, technical consultancies and through involvement with forestry multi-nationals. .... [Dr. Murphy] built up an international reputation few could match. ... [Dr. Murphy] is one of the most committed and hard working scientists I have met."*

Dr. Robert McCormack was a senior scientist with the Forestry and Forest Products Division of Australia's Commonwealth Scientific and Industrial Research Organization. He was also a Deputy Coordinator of four Working Units for the International Union of Forest Research Organizations and a Distinguished Member of the Scientific Committee of the international Wood Logistics Research Network. He has known Dr. Murphy professionally for about 25 years. He writes: *"Dr. Murphy has developed an outstanding*

*expertise in the field of Forest Operations Research/ Forest Engineering to the point where he is now an important international expert in the field. ... He is one of those relatively rare individuals who has thrived on living and working in different countries and forestry settings, and this has provided a wealth of experience shared by few in the field. ... [Dr. Murphy] has also made (and continues to make) a considerable impact in the scientific and academic community, through his active participation and leadership in international research conferences, symposia and forums, and through his outstanding scientific and technical publication record.”*

Patent awards, Cultivar Releases, Inventions, etc.

Dr. Murphy filed invention disclosure documents in 2006 with OSU’s research office on a technology for rapid, in-forest assessment of wood density. OSU decided not to pursue the patent.

Dr. Murphy has also developed (1) value management software, and (2) production planning and economic analysis software models for a range of harvesting systems.

**D. Service**

Service to Oregon State University (between 2001 and 2012)

*Forest Engineering Department/ FERM Department*

- Strategic Planning Committee (Co-chair) - 2002 to 2004
- Graduate Committee - 2001 to 2005 (member); 2006 to 2007 (Chair); 2008- present (member)
- Promotion and Tenure Committee - 2001 to 2012
- Faculty and Staff Search Committees (3) - 2001, 2001, 2003

*College of Forestry*

- College Forests Advisory Committee - 2002 to 2007
- McDonald-Dunn & Blodgett Forests Interdisciplinary Planning Team - 2003 to 2006
- Plantation Forestry Symposium Planning Committee - 2003 to 2004
- Promotion and Tenure Committee – 2007 to 2010
- Forest Engineering, Research and Management Department Head Search Committee 2008
- Hayes Endowed Professor Search Committee (Chair) 2009.
- Richardson Chair Review Committee 2011.
- COF Scholarship Committee 2011 to 2012

*Oregon State University*

- Mentoring graduate and undergraduate students across campus in public speaking and leadership skills through membership and club officer positions with Oregon State Toastmasters Club - 2001 to 2012
- Agricultural and Resource Economics Department Review (Graduate Council Representative) - 2001
- USDA CSREES Review of Wood Science and Engineering Department (FE Department representative) – 2004

Service to Profession

*At the National Level (USA)*

- Chairman of Forest Products Society's Timber Production and Harvesting Technical Interest Group - 2002 to 2005.
- Steering Committee for the Dry Forest Mechanized Fuels Demonstration Project (funded by Central Oregon Intergovernmental Council) - 2001-2002

- University of Georgia Adjunct Professor providing expertise in value recovery from plantation forests - 2002 to 2012
- USDA Forest Service's Woody Biomass Assessment Team which provided a strategic assessment of forest biomass availability and fuels reduction in Western States - 2004
- Council on Forest Engineering (Member) - 1986 to present

*At the International Level*

- International Union of Forest Research Organizations (Working Group Deputy Chairman) - 1990 to 1991
- FAO/Finland Consultation on Forest Harvest Training in Developing Countries (Country Representative on behalf of New Zealand) - 1990
- International Energy Agency Bioenergy Project (Country Representative on behalf of New Zealand) - 1995 to 1997
- Promotion dossier evaluations for seven faculty/scientists at the following institutions/organizations:
  - University of Sokoine (Tanzania) - 2003
  - USDA Forest Service, PNW Research Station (USA) - 2003
  - University of Canterbury (New Zealand) - 2003
  - University of Helsinki (Finland) - 2004
  - Virginia Tech (USA) - 2004
  - University of West Virginia (USA) - 2004.
  - University of West Virginia (USA) - 2005.
- Since June 2001 Dr. Murphy has been a peer-reviewer for more than 60 papers for such publications as International Journal of Forest Engineering, Forest Science, Western Journal of Applied Forestry, Forest Products Journal, Scandinavian Journal of Forestry, Silva Fennica, Transactions of Signal Processing, Southern Journal of Applied Forestry, Canadian Journal of Forest Research, New Zealand Journal of Forestry, New Zealand Journal of Forestry Science, Journal of Tropical Forest Science, Journal of Science and Technology for Forest Products, Southern Forestry Journal.
- External examiner for three PhD theses; one from Ireland and two from Australia.
- New Zealand Journal of Forestry Science Editorial Board member -2005 to 2011
- Journal of Science and Technology for Forest Products Editorial Board member – 2011 to present
- International Journal of Forest Engineering Associate Editor – 2013 to present
- Served on organizing committee for international conferences in the following countries
  - Chile 2011 (Systems Analysis for Forest Resources Conference)
  - Australia 2012 (Precision Forestry Conference)
  - South Africa 2014 (Precision Forestry Conference)

**E. Awards:**

Excellence in Research Award , Waiariki Institute of Technology. 2014.

Stewart Professorship in Forest Engineering, Oregon State University. (2008 to 2012).

OSU College of Forestry Dean's Award (2005) - for contribution to the COF Forests Interdisciplinary Planning Team.



The following awards were granted while Dr. Murphy was based in New Zealand and working for the New Zealand Forest Research Institute.

Awarded a one-year Weyerhaeuser Research Fellowship to study steep terrain harvesting operations in USA. 1979-1980.

Awarded a New Zealand State Services Commission Study Award to attend FEI at OSU and to visit other research centers in the USA and Canada. 1980

Awarded a New Zealand National Research Advisory Council Postgraduate Research Fellowship to undertake a doctoral degree at OSU. 1984-1987.

Good communication and leadership skills are often identified as important attributes of an effective professional whether that person is a forest engineer, a business person, a lawyer, etc. Dr. Murphy included aspects of communication and leadership in his OSU courses on forest operations analysis and production planning and control. He was a member of Toastmasters International, a worldwide communication and leadership training group, for over 25 years. Dr. Murphy has been recognized on a number of occasions by Toastmasters International for his outstanding performance.

Excellence in Leadership Award – 1996  
Excellence in Education & Training Award – 1995  
Excellence in Marketing Award – 1994  
Lt. Governor of the Year Award - 1992  
Distinguished Toastmaster Award – 1991

From 1998-2000 Dr. Murphy also served on the International Board of Directors for Toastmasters International, representing the interests of Toastmasters outside of North America.

Dr. Murphy was also recognized for his outstanding service to the District of Rotorua (New Zealand) when he was presented with a Rotorua Community Award in 2001.