VITA

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Institution: School of Renewable Natural Resources
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III. Educational Background:

1968 - 1972   National Chung Hsing University, Taiwan,
              B.S. (Forestry)
1974 - 1975   Harvard University
              M.F.S. (Forest Management Economics)
1975 - 1979   University of Wisconsin- Madison
              Ph.D. (Forest Economics and Management)

IV. Current Positions

Professor of Forestry, School of Renewable Natural Resources, Louisiana State University
Chairman, LSU Agricultural Faculty Council
Associate Editor, Journal of Forest Economics
Associate Editor, Forest Ecosystems.

V. Experience

2012 - 2017   Editor, Forest Policy and Economics
1978 - 1984   Assistant Professor, Department of Forestry, University of Kentucky
1984 - 1990   Associate Professor, Department of Forestry, University of Kentucky
1985 - 1986   Visiting Scientist, Taiwan Forestry Research Institute
               Sabbatical leave.
1991 - 1992   Professor, School of Forestry, Wildlife, and Fisheries, Louisiana State University
1992 - 1998   Professor and Forestry Program Leader. School of Forestry, Wildlife, and Fisheries,
               Louisiana State University
1999- present Professor, School of Renewable Natural Resources, Louisiana State University
2001 Summer   Visiting Professor, Goettingen University Faculty of Forestry

2007 Summer Visiting Professor, Beijing Forestry University
2007 Summer Visiting Professor, Dresden University of Technology, Germany
2012 Summer Fulbright specialist-Visiting professor, St. Petersburg Forest Technical University, Russia
2010-2013 Distinguished Visiting Professor, National 111 program, Minzu University. Beijing.
2014 Spring and Summer. Visiting Professor. Department of Forestry, National Taiwan University.

VII. Publications

A. Book Chapters:

1. Chang, S.J. 1988. An econometric analysis of supply and demand for forest products in Taiwan. In Forest Products Trade: Market Trends and Technical Developments; Johnson and Smith (eds.). pp. 77-90. University of Washington Press, Seattle.

2. Chang, S.J., J.R. Olson, and P.C. Wang. 1989. NMR imaging of eastern hardwoods. In Cellulose in Wood Chemistry and Technology; Conrad Schuerch (eds.). pp. 235-247. John Wiley and Sons, New York.

3. Wang, P.C., S.K. Mun, S.J. Chang, and J.R. Olson. 1989. Technology of NMR imaging in wood. In Cellulose in Wood Chemistry and Technology; Conrad Schuerch (eds.). pp. 221-234. John Wiley and Sons, New York.

4. Chang, S.J. 1992. External and internal defect detection to optimize cutting of hardwood logs and lumber. Transferring Technologies fort Industry No. 3, USDA National Agricultural Library. Beltsville, MD. 24p.

5. Chang, S.J. 2003. An economic analysis of forest taxation's impact on optimal rotation age. In Economics of Forestry, Roger Sedjo (eds). pp. 131-144. Ashgate Publishing, London.
6. Chang, S.J. 2014. The generalized Faustmann formula. In: Handbook of Forest Resource Economics, S. Kant and J. Alavalapatti (eds). pp. 26-49. Earthscan, London.

B. Journals:

1. Chang, S.J. 1980. Discounting under risk: Comments on adjusting discount rates. Journal of Forestry 78:634-635.

2. Chang, S.J. 1980. High quality logs: Saw or sell -- a simplified analysis. Southern Journal of Applied Forestry 4:66.

3. Chang, S.J. and J. Buongiorno. 1981. A programming model for multiple use

forestry. Journal of Environmental Management 13:41-54.

4. Chang, S.J. 1981. The determination of the optimal growing stock and cutting cycle for an uneven-aged stand. Forest Science 27:739-744.

5. Chang, S.J. 1982. An economic analysis of forest taxation's impact on optimal rotational age. Land Economics 58:310-323.

6. Chang, S.J. 1983. Rotation age, management intensity, and the economic factors of timber production: do changes in stumpage price, regeneration cost, interest rate, and forest taxation matter? Forest Science 29:267-277.

7. Stier, J.C. and S.J. Chang. 1983. Land use implication of the ad valorem tax: the role of tax incidence. Forest Science 29:702-712.

8. Chang, S.J. 1984. The determination of the optimal rotation age: a theoretical analysis. Forest Ecology and Management 8:137-147.

9. Chang, S.J. 1984. A simple production function model for variable density growth and yield modeling. Canadian Journal of Forest Research 14:783-788.

10. Chang, S.J. 1985. Application of economic analysis in the management of pulp and paper industry. Pulp and Paper 12:40-46,50.

11. Chang, S.J. and I-an Jan. 1986. An analysis of the timber supply and demand situation in Taiwan. Taiwan Forestry Research Institute Research Report Quarterly 1:81-137.

12. Wang, P.C. and S.J. Chang. 1986. NMR imaging of wood. Wood and Fiber Science 18(2):308-314.

13. Chang, S.J. 1989. Response to study of production function for modeling forest growth: An area of research. Forest Science 35:850-852.

14. Chang, S.J., J.R. Olson, and P.C. Wang. 1989. NMR imaging of internal features in wood. Forest Products Journal 39:43-49.

15. Chang, S.J. 1990. Comments on Konig-Faustmann model by Oderwald and Duerr. Forest Science 36:177-179.

16. Olson, J.R., S.J. Chang, and P.C. Wang. 1990. Nuclear magnetic resonance imaging: a non-evasive analysis of moisture distributions in white oak lumber. Canadian Journal of Forest Research. 20:586-591.

17. deHoop, C.F., S. Kleit, S.J. Chang, R. Gazo, and M.E. Buchart. 1997. Survey and

mapping of wood residue users and producers in Louisiana. Forest Products Journal 47(3):31-37.

18. Chang, S.J. 1998. A generalized Faustmann model for the determination of the optimal harvest age. Canadian Journal of Forest Research 48(5):652-659.

19. Guddanti, S. and S.J. Chang. 1998. Replicating sawmill sawing with TOPSAW using CT images of a full length hardwood log. Forest Products Journal 48(1):72-75.

20. Coates, E.R., S.J. Chang, and T.W. Liao. 1998. A quick defect detection algorithm for magnetic resonance images of hardwood logs. Forest Products Journal 48(10): 68-74.

21 Chang, S.J. 2001. . One formula, myriad applications - 150 years of practicing the Faustmann Formula in Central Europe and the USA. Forest Policy and Economics 2(2):97-99.

22 Dean, T.J. and S.J. Chang. 2002. Using simple marginal analysis and density management diagrams for prescribing density management. Southern Journal of Applied Forestry 26(2):85-92.

23 Chang, S.J. 2003. Quarterly Southern Pine Sawtimber Stumpage Prices in Louisiana over the Last 45 Years: Bugs, Owls, and Water. Forest Landowners 62(2): 33-37.

24 Sánchez Orois, S., Chang, S. J. and Gadow, K. v. 2004. Optimal residual growing stock and cutting cycle in mixed uneven-aged maritime pine stands in northwestern Spain. Forest Policy and Economics 6(2):145-152.

25 Chang, S.J., C. Cooper, and S. Guddanti. 2005. Effects of the rotational angle and depth of the opening cut on hardwood log sawing. Forest Products Journal 55(10): 49-55.

26 Chang, S.J. and R. Gazo. 2009. Measuring the effect of internal defect scanning on the value of lumber produced. Forest Products Journal 59 (11/12): 56-59.

27 Chang, S.J. and K. von Gadow. 2010. Application of the generalized Faustmann model to uneven-aged forest management. Journal of Forest Economics 16(4); 313-325.

28 Song, N. S.J. Chang, and F. Aguilar. 2010. U.S. softwood lumber demand and supply estimation using cointegration in dynamic equations. Journal of Forest Economics, 17(1): 19-33.

29 Chang, S.J. and P. Deegen. 2011. Pressler's indicator rate formula as a guide for forest management in a dynamic world of unanticipated changes. Journal of Forest Economics 17: 258-266.

30 Parajuli, R. and S.J. Chang. 2012. Carbon sequestration and uneven-aged management of loblolly pine stands in the Southern USA: A joint optimization approach. Forest Policy and Economics 22; 65-71.

31 Nepal, P., P.J. Ince, K.E. Skog, and S. J. Chang. **2012**. Projection of U.S. forest sector carbon sequestration under U.S. and global timber market and wood energy consumption scenarios, 2010-2060. **Biomass and Bioenergy** 45(2012): 251-264.

32 Nepal, P., P.J. Ince, K.E. Skog, and S. J. Chang. **2012**. Developing inventory projection models using empirical net forest growth and growing stock density relationships across US regions and species groups. **Research Paper FPL-RP-668**. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 20 p.

33 Chang, S.J. 2013. Solving the problem of carbon dioxide emissions. Forest Policy and Economics 35(2013): 92-97.

34 Nepal, P., P. Ince, K. Skog, and S.J. Chang. 2013. Forest carbon benefits, costs, and leakage effects on carbon reserve scenarios in the United States. Journal of Forest Economics 19(3): 286-306.

35 Chang, S.J. 2014. Forest valuation under the generalized Faustmann formula. Canadian Journal of Forest Research 44(1): 56-63.

36 Susaeta, A., S.J. Chang, D. Carter, P. Lal. 2014. Economics of carbon sequestration under fluctuating economic environment, forest management and technological changes: an application to forest stands in the southern United States. Journal of Forest Economics 20 (2014): 47-64.

37 Parajuli, R. and S.J. Chang. 2015. The Softwood Sawtimber Stumpage Market in Louisiana: Market Dynamics, Structural Break, and Vector Error Correction Model. Forest Science 61(5):904-913.

38 Parajuli, R. S.J. Chang and R.C. Hill. 2015. How effective is the U.S.- Canada Softwood Lumber Agreement 2006? an econometric study. Forest Science 61(6): 1041-1049.

39 Susaeta, A., D. Carter, S.J. Chang, D. Adams. 2016. A generalized Reed model with application to wildfire risk in even-aged Southern United States pine plantations. Forest Policy and Economics 67:60-69.

40 Parajuli, R., S. Sarangi, S.J. Chang, and R. C. Carter. 2016. The United States-Canada softwood lumber trade: an actual vs. optimal export tax. Forest Policy and Economics 73: 112-119.

41 Parajuli, R., Zhang, D., Chang, S.J. 2016. Modeling stumpage markets using vector error correction vs. simultaneous equation estimation approach: A case of the Louisiana sawtimber market. Forest Policy and Economics 70, 16–19

42 Chang, S.J. 2016. Some observations on forest devolution: an editorial. Forest Policy and Economics 73(2016):270.

43 Chang, S.J. 2017. An editorial from the handling editor. Forest Policy and Economics 84(2017): 9-10.

44 Chang, S.J. 2018. Forest property taxation under the generalized Faustmann formula. Forest Policy and Economics 88(2018): 38-45.

45 Chang, S.J. 2018. Forest valuation under the generalized Faustmann formula with taxation. Forest Policy and Economics 88(2018): 46-51.

46 Zhang, F. and S.J. Chang. 2018. Measuring the impact of risk preference on land valuation: Evidence from forest management. Land Economics

C. Published Conference Proceedings

Proceedings edited

1. Chang, S.J. 1991. Editor, Proceedings of Southern Forest Economics Workshop on Environmental Concerns, Government Regulations, New Technology and Their Impact on Southern Forestry. Louisiana State University Agricultural Center

2. Chang, S.J. 2002. Editor, Proceedings of the IUFRO Symposium "150 Years of the Faustmann Formula: Its Consequences for Forestry and Economics in the Past, Present, and Future". Louisiana State University Agricultural Center 285 p.

Papers Related to Log Scanning and Sawing

1. Chang, S.J., P.C. Wang, and J.R. Olson. 1987. Nuclear magnetic resonance imaging of hardwood. In: Proceedings of the Second International Conference on Scanning Technology in Sawmilling. pp.IX1-IX8.

2. Chang, S.J. 1989. An economic feasibility analysis of fast NMR scanner. In: Proceedings of the Third International Conference on Scanning Technology in Sawmilling, ppVII-1-VII-6.

3. Wang, Paul C., S.J. Chang, and J.R. Olson. 1989. Scanning logs with an NMR scanner. In: Proceedings Seventh International Nondestructive Testing of Wood

Washington State University Press, pp209-219.

4. Olson, J.R., S.J. Chang, and P.C. Wang. 1989. NMR imaging of moisture flow in white oak rays. In: Upgrading Wood Quality through Drying Technology IUFRO 1989 Wood Drying Symposium. pp59-63.

5. Chang, S.J. 1990. NMR application for internal defect detection. In: Proceedings of Process Control/Production Management of Wood Products: Technology for the 90s. pp89-98.

6. Chang, S.J. 1991. Ultra-fast scanning of hardwood logs with an NMR scanner. In: Proceedings of the 4th International Conference on Scanning Technology in the Wood Industry. ppChang1-3.

7. Chang, S.J. and S. Guddanti. 1993. Application of high speed image processing in hardwood sawing research. In: Proceedings of the 5th International Conference on Scanning Technology and Process Control for the Wood Products Industry.

8. Guddanti, S. and S.J. Chang. 1995. High speed industrial CT scanning and image processing of full-length red oak saw log. In: Proceedings of the 2nd International Seminar/Workshop on Scanning Technology and Image Processing on Wood. August 14-16, 1995. Skelleftea, Sweden. pp.25-38.

9. Chang, S.J., S. Guddanti and C. Cooper. 1997. Measuring the benefits of internal log defect scanning: a mill-based study. In: Proceedings of Scan Pro 97- the 7th International Conference on Scanning Technology and Process Optimization for the Wood Products Industry. November 12-14, 1997. Charlotte, N.C.

10. T.J. Dean and S.J. Chang. 2002. Economic rational for planting less trees in the face of seedling mortality. In: Outcalt, K.W. ed. 2002. Proceedings of the Eleventh Biennial Silvicultural Research Conference; March 20-22; Knoxville, TN. Gen. Tech. Rep. SRS-48, Ashville, NC: USDA Forest Service Southern Research Station 622 p.

11. Cureington, S., and S. J. Chang. 2003. A Discussion of Antitrust Implications for Future Horizontal Merger Activity within the Tissue Industry. In Proceedings of the 2003 Southern Forest Economics Workshop. Mofffat, S. (eds). pp. 203-210.

12. Song, N., and S. J. Chang. 2003. Nonstationarity and Its Consequences in Modeling the Southern Timber Market. In Proceedings of the 2003 Southern Forest Economics Workshop. Moffat, S. (eds). pp. 241-250.

13. Doleswar, B., S. J. Chang, and M. A. Dunn. 2003. Pine Sawtimber Severance and Price: A Causality Test for Louisiana. In Proceedings of the 2003 Southern Forest Economics Workshop. Moffat, S. (eds). pp. 11-20

14. Chang, S.J. 2003. Hardwood sawing optimization based on CT scanning of internal defects. In: Proceedings of the 5th International Conference on Image Processing and Scanning of Wood. Bad Waltersdorf, Austria. pp. 125-130.

15. Chang, S.J. and P. Pasala. 2003. Hardwood sawing optimization based on CT scanning of internal defects. In: Proceedings of ScanTech 2003: The 10th International Conference on Scanning Technology and Process Optimization in the Wood Industry. Seattle, WA. pp. 31-37.

16. Chang, S.J. 2005. Live, Bi-directional, and Grade Sawingof a Virtual Red Oak LogIn: Proceedings of ScanTech 2005: The 11th International Conference on Scanning Technology and Process Optimization in the Wood Industry. Las Vegas, NV. pp. 31-37.

Plus 13 papers on other topics.

D. Research Bulletins and Technical Reports

1. McCoy, D.R. and S.J. Chang. 1983. The secondary wood using industries in Kentucky: An economic analysis. University of Kentucky, College of Agriculture, Agriculture Experiment Station Bulletin 710, 68p.

2. Chang, S.J. 1985. Statistics of forest products trade of Taiwan (Supplement): Paper and paper products 1960-1984. Department of Forest Economics, Taiwan Forestry Research Institute, 40p.

3. Chang, S.J. 1986. A timber supply and demand model for Taiwan. Project report to Taiwan Forestry Research Institute and Council of Agriculture, Republic of China. (in Chinese with English Summary).

4. Chang, S.J., and J.R. Olson. 1988. NMR imaging of eastern hardwoods. In Advanced Technology Application to Eastern Hardwood Utilization Progress Report 1. pp. 34-35. Department of Forestry, Michigan State University.

5. Chang, S.J., 1989. An economic analysis of scanning logs with the NMR scanner. In Advanced Technology Application to Eastern Hardwood Utilization Progress Report 2. pp. 70-71. Department of Forestry, Michigan State University.

6. Chang, S.J. and A. Main. 1993. A study of possible impact of classifying chip and saw logs as a sub-category under trees and timber on timber severance tax revenue.

7. Chang, S. J., R. L. Busby, P. R. Pasala, and J. C. Goelz. 2005. VB Merch-Lob: A growth and yield prediction system with a merchandising optimizer for the planted loblolly pine in the west gulf region. USDA Forest Service Southern Research

Station Res. Pap. SRS-35. 18p.

8. Chang, S. J., R. L. Busby, P. R. Pasala, and J. C. Goelz. 2005. VB Merch-Slash: A growth and yield prediction system with a merchandising optimizer for the planted slash pine in the west gulf region. USDA Forest Service Southern Research Station Res. Pap. SRS-36. 18p.

VIII. Research Activities:

LAB094061 Enhancement of the generalized Faustmann model for analyzing various systems of forest taxation.

IX. Professional Activities

A. Professional Organizations

Society of American Foresters
Forest Products Society
Southern Forest Economists Association

B. Conference Organizer and Chair

2017 Annual meeting of the International Society of Forest Resource Economics, New Orleans
2005 Annual meeting of the Southern Forest Economics Workers, Baton Rouge, LA.
1991 Annual meeting of the Southern Forest Economics Workers, Washington, D.C.

Initiator of the International Faustmann Symposium on Forest Management, Economics, and Policy

2016 The 5th International Faustmann Symposium, Beijing, China.
2005 The 2nd International Faustmann Symposium, Baton Rouge, LA.
1999 The 1st International Faustmann Symposium, Darmstadt, Germany.