CURRICULUM VITAE

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Positions

Apr. 2013-present	Professor, Department of Forestry and Natural Resources (FNR), Purdue University, West Lafayette, IN.
Oct. 2003- Apr. 2013	Associate Professor, FNR, Purdue University, West Lafayette, IN.
July 2002- Sept. 2003	Research Associate Professor, Department of Forest Science, Oregon State University, Corvallis.
Jan. 1997- Sept. 2003	Associate Director, Tree Genetic Engineering Research Cooperative (TGERC), Oregon State University, Corvallis.
Sept.1994- June 2002	Research Assistant Professor, Department of Forest Science, Oregon State University, Corvallis.
May 1994- Aug. 1994	Research Assistant Professor, Department of Biochemistry, University of Missouri, Columbia.
July 1990- Apr. 1994	Rockefeller Foundation Post-doctoral Research Fellow, Department of Biochemistry, University of Missouri, Columbia (Mentor: Roy O. Morris).

Education

Aug. 1990	Ph.D.	Iowa State University, Botany (Physiology and Molecular Biology) and Forestry (Forest Biology) (with honors)
July 1985	M.S.	Humboldt State University, Forestry
Mar. 1983	B.S.	Humboldt State University, Forest Science (*summa cum laude*)
June 1979	A.S.	Feather River College, Natural Sciences

Doctoral Dissertation Title: Qualitative characterization of the endogenous cytokinins in red pine and aspects of their influence on seedling development.

Master's Thesis Title: The evaluation of several factors influencing Douglas-fir survival on a harsh site.

Memberships

American Society of Plant Biologists
American Society of Foresters

Awards

2015	Seed for Success Award, Purdue University
2014	Purdue Agriculture TEAM Award
2007	Seed for Success Award, Purdue University
2006	Exceptional Departmental Service Award, Purdue University
2000	Dean's Award for Outstanding Achievement for Team Research, Oregon State University

Publications (in referred journals)

Jeong, D., Tyner, W.E., Meilan, R., Brown, T.R., and Doering, O.C. 2020. Stochastic techno-economic analysis of electricity produced from poplar plantations in Indiana. *Renewable Energy* 149:189-197.

Iqbal, J., Meilan, R., and Khan, B. 2019. Assessment of risk, extinction, and threats to Himalayan yew in Pakistan. *Saudi Journal of Biological Sciences* (https://doi.org/10.1016/j.sjbs.2019.12.033).

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Yang, H., Zhang, X., Luo, H., Liu, B., Shiga, T.M., Li, X., Kim, J.I., Rubinelli, P., Overton, J.C., Subramanyam, V., Cooper, B.R., Mo, H., Abu-Omar, M.M., Chapple, C., Donohoe, B.S., Makowski, L., Mosier, N.S., McCann, M.C., Carpita, N.C., and Meilan, R. 2019. Overcoming cellulose recalcitrance in woody biomass for the lignin-first biorefinery. *Biotechnology for Biofuels* 12:171 (https://doi.org/10.1186/s13068-019-1503-y).

Schutyser, W., Kruger, J.S., Robinson, A.M., Katahira, R., Brandner, D.G., Cleveland, N.S., Mittal, A., Peterson, D.J., Meilan, R., Román-Leshkov, Y., and Beckham, G.T. 2018. Revisiting alkaline aerobic lignin oxidation. *Green Chemistry* 20:3828.

Buhl, C., Meilan, R., and Lindroth, R.L. 2017. Genetic modification of lignin in hybrid poplar (*Populus alba* × *P. tremula*) does not substantially alter plant defense or arthropod communities. *Journal of Insect Science* 17(3):76. (DOI: doi.org/10.1093/jisesa/iex052)

Yordanov, Y., Ma, C., Yordanova, E., Meilan, R., Strauss, S.H., and Busov, V.B. 2017. *BIG LEAF* is a regulator of organ size and adventitious root formation in poplar. *PLoS ONE* 12(7):e0180527.

Ault, K., Viswanath, V., Jayawickrama, J., Ma, C., Eaton, J., Meilan, R., Hohenschuh, W., Murthy, G., and Strauss, S. 2016. Improved growth and weed control of glyphosate-tolerant poplars. *New Forests* 47(5):653-667.

Klocko, A.L., Brunner, A.M., Huang, J., Meilan, R., Lu, H., Ma, C., Morel, A., Zhao, D., Ault, K., Dow, M., Howe, G., Shevchenko, O., and Strauss, S.H. 2016. Genetic containment of forest trees by RNAi suppression of *LEAFY*. *Nature Biotechnology* 34(9):918-922.

Shuai, L., Amiri, M.T., Questell-Santiago, Y.M., Héroguel, F., Kim, H., Meilan, R., Chapple, C., Ralph, J., and Luterbacher, J.S. 2016. Formaldehyde stabilization facilitates lignin monomer production during biomass depolymerization. *Science* 354(6310):329-333 (DOI: 10.1126/science.aaf7810).

Parsell, T., Yohe, S., Degenstein, J., Jarrell, T., Klein, I., Gencer, E., Hewston, B., Hurt, M., Kim, J.-I., Choudhari, H., Saha, B., Meilan, R., Mosier, N., Ribeiro, F., Delgass, W.N., Chapple, C., Kenttämaa, H.I., Agrawal, R., and Abu-Omar, M.M. 2015. A synergistic biorefinery based on catalytic conversion of lignin prior to cellulose starting from lignocellulosic biomass. *Green Chemistry* 17:1492-1499 (DOI: 10.1039/C4GC01911C).

Zeng, Y., Zhao, S., Wei, H., Tucker, M.P., Himmel, M.E., Mosier, N.S., Meilan, R., and Ding, S.-Y. 2015. In situ micro-spectroscopic investigation of lignin in poplar cell walls pretreated by maleic acid. *Biotechnology for Biofuels* 8:126-37 (DOI: 10.1186/s13068-015-0312-1).

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French, D. and Meilan, R. 2013. Germination trials for Asian and North American ash species. *Tree Planters' Notes* 56(1):27-34.

Huang, Z., Zhao, P., Medina, J., Meilan, R, and Woeste, K. 2013. Roles of JnRAP2.6-like from the transition zone of black walnut in hormone signaling. *PLoS ONE* 8(11):e75857 (DOI: 10.1371/journal.pone.0075857).

Trupiano, D., Yordanov, Y., Regan, S., Meilan, R., Tschaplinski, T., Scippa, G.S., and Busov, V. 2013. Identification and characterization of an AP2/ERF transcription factor that promotes adventitious and lateral root formation in *Populus*. *Planta* 238(2):271-82. DOI: 10.1007/s00425-013-1890-4.

Harfouche, A., Meilan, R., Kirst, M., Morgante, M., Boerjan, W., Sabatti, M., and Scarascia Mugnozza, G. 2012. Accelerating the domestication of forest trees in a changing world. *Trends in Plant Science* 17(2):64-72.

Hsu, C.-Y., Adams, J.P., No, K., Liang, H., Meilan, R., Pechanova, O., Barakat, A., Carlson, J.E., Page,G.P., Luthe, D., and Yuceer, C. 2012. Overexpression of *CONSTANS* homologs *CO1* and *CO2* fails to alter normal reproductive onset, spring bud break, and fall bud set in woody perennial poplar. *PLoS ONE* 7(9): e45448 (DOI:10.1371/journal.pone.0045448).

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Li, X., Ximenes, E., Kim, Y., Slininger, M., Meilan, R., Ladisch, M.R., Chapple, C.C.S. 2010. Lignin monomer composition impacts *Arabidopsis* cell-wall degradability following liquid hot water pretreatment. *Biotechnology and Biofuels* 3:27.

Dunning, J.B., Meilan, R., Jacobs, D., Blank, G.B., Easley, T., and Olsson, M. 2009. Collaborative Study Abroad – Combining efforts to improve undergraduate experience. NACTA Journal 52(4):20-24.

Huang, Z., Tsai, C.-J., Harding, S.A., Meilan, R., Woeste, K.E. 2009. A cross-species transcriptional profile analysis of heartwood formation in black walnut. *Plant Molecular Biology Reporter* DOI: 10.1007/s11105-009-0144-x.

Huang, Z., Meilan, R., and Woeste, K.E. 2009. A *KNAT3-like* homeobox gene from *Juglans nigra*, *JnKNAT3-like*, is highly expressed during heartwood formation. *Plant Cell Reports* DOI: 10.1007/s00299-009-0771-6.

Li, J., Brunner, A.M., Meilan, R., and Strauss, S.H. 2009. Stability of transgenes in trees: Expression of two reporter genes in poplar over three field seasons. *Tree Physiology* DOI: 10.1093/treephys/ tpn028.

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Wang, Y.J., Wisniewski, M., Meilan, R., Cui, M.G., and Fuchigami, L. 2007. Transgenic tomato (*Lycopersicon esculentum*) overexpressing cAPX exhibits enhanced tolerance to UV-B and heat

stress. *Journal of Applied Horticulture* 9(2): 87-90.

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Davis, M.F., Tuskan, G.A., Payne, P., Tschaplinski, T.J., and Meilan, R. 2006. Assessment of *Populus* wood chemistry following the introduction of a Bt toxin gene. *Tree Physiology* 26:557–564.

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Wei, H., Meilan, R., Brunner, A.M., Skinner, J.S., Ma, C., and Strauss, S.H. 2006. Transgenic sterility in *Populus*: Expression properties of the poplar *PTLF*, *Agrobacterium NOS*, and two minimal 35S promoters in vegetative tissues. *Tree Physiology* 26:401-410.

Meilan, R. 2006. Challenges to commercial use of transgenic plants. *Journal of Crop Improvement* 18(1/2):433-450.

Busov, V.B., Brunner, A.M., Meilan, R., Filichkin, S., Ganio, L., Gandhi, S., and Strauss, S.H. 2005. Genetic transformation: A powerful tool for dissection of adaptive traits in trees. *New Phytologist* 67(1):9-18.

Michler, C.H., Pijut, P.M., Jacobs, D.F., Meilan, R., Woeste, K.E., and Ostry, M.E. 2005. Improving disease resistance of butternut (*Juglans cinerea*), a threatened fine hardwood: A case for single-tree selection through genetic improvement and deployment. *Tree Physiology* 26:121-128.

Strauss, S.H., Brunner, A.M., Busov, V.B., Ma, C., and Meilan, R. 2005. Ten lessons from 15 years of transgenic *Populus* research. *Forestry* 77(5):455-465.

Wang, Y., Wisniewski, M., Meilan, R., Boyer, C., and Fuchigami, L. 2005. Overexpression of cytosolic ascorbate peroxidase in tomato confers tolerance to chilling and salt stress. *Journal of the American Society for Horticultural Science* 130(2):167-173.

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Other Publications

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Meilan, R. Genetically engineering poplars for commercially useful traits. Delegation from Universidad Nacional de San Agustín (UNSA) in Arequipa, Peru; 31 July 2019.

Meilan, R. Developing a bio-herbicide using termite-derived enzymes; Southwest Purdue Agricultural Center Field Day; Vincennes, IN; 27 June 2019.

Meilan, R. The physiology and practical aspects of *OxO*-containing transgenic American chestnut; The American Chestnut Foundation (state chapter meeting); Martell Research Forest, Purdue University; 12 January 2019.

Meilan, R. Analysis of the Use of Trees as a Strategy to Mitigate CO_2 Emissions from Power Plants in Indiana; Heritage Group; Indianapolis, IN; 15 August 2018.

Meilan, R. The potential of hybrid cottonwood as a bioenergy crop; Southwest Purdue Agricultural Center Field Day; Vincennes, IN; 29 June 2017.

Meilan, R. Improving the conversion efficiency of bioenergy crops (keynote address); XII International Symposium on Plant Biotechnology, Plant Biotechnology Institute in Santa Clara, Cuba; 6 April 2016.

Meilan, R. Altering the phenylpropanoid pathway to improve the conversion efficiency of poplar; invited seminar, Faculty of Agriculture, Utsunomiya University (Japan); 15 March 2016.

Meilan, R. Using GMO trees to produce biofuel; Morgan County annual Extension Board meeting; 17 November 2015.

Meilan, R. The potential of hybrid cottonwood as a bioenergy crop; Southwest Purdue Agricultural Center Field Day; Vincennes, IN; 9 July 2015.

Meilan, R. Poplar as an energy crop: A view from Indiana; 9th Biennial Short Rotation Woody Crops Operations Working Group Conference; Knoxville, TN; 6 November 2012.

Meilan, R. Increasing the Utility of *Populus* as a BioEnergy Crop; Tech Showcase, Clean Energy Trust; Chicago, IL; 3 October 2012.

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Meilan, R. Using *Corngrass1* to engineer low-lignin poplar as a bioenergy crop; Purdue Office of Technology Commercialization (OTC) Road Show; Merrillville, IN; 21 August 2012.

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Meilan, R. Wood products and trees for biofuels; Midwestern Association for State Departments of Agriculture (MASDA); Indianapolis, IN; 22 June 2012.

Meilan, R. Forest management and biomass; Production Agriculture Roundtable; College of Agriculture, Purdue University; 6 March 2012.

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of American Foresters. Hybrid Poplars in the Pacific Northwest: Culture, Commerce and Capability; Pasco, WA; 8 April 1999 (invited).

Meilan, R. 1999. Adding genes to hybrid poplar. Hardwood Silviculture Cooperative, Oregon State University, Semi-annual Meeting, 26 January 1999 (invited).

Meilan, R. 1998. Building a better poplar through genetic engineering. Department of Forest Resources, University of Minnesota, 22 April 1998 (invited).

Meilan, R. 1998. A lecture in their "Conversations on Education" series. Department of Forest Resources, University of Minnesota; 22 April 1998 (invited).

Meilan, R., Han, K.-H., Ma, C., James, R., Crockett, R., Eaton, J., Hoien, E., Taylor, M., Rogan, G., Holden, L., Stanton, B., and Strauss, S. 1997. Cooperative field tests of transgenic, glyphosate resistant cottonwoods. Poplar Council of Canada Annual Meeting; Campbell River, B.C.; 30 September-2 October 1997 (invited).

Meilan, R., List, P.C., and Radosevich, S.R. 1996. Herbicide resistant crops: Benefits and concerns. *In*: Proceedings of Confluences: A convergence of concerns, a community of scholars. Warm Springs, OR; 3-5 May 1996 (invited).

Strauss, S.H., Meilan, R., Rottmann, W.H., Sheppard, L.A. and Brunner, A.M. 1996. Genetic engineering of reproductive sterility in forest trees: Cloning and expression of three floral homeotic genes in *Populus*. *In*: Proceedings of the Fourteenth International Congress of Plant Reproduction. Lorne, Victoria, Australia. 18-23 February 1996 (invited).

Strauss, S.H., Han, K.-H., Meilan, R., DiFazio, S.P., Sheppard, L.A., Brunner, A.M., James, R.R. and Crockett, R.P. 1996. Production and deployment of transgenic trees. 49th TAPPI Pacific Section Seminar; Seattle, WA; 19-20 September 1996 (invited).

Strauss, S.H., Meilan, R., Rottmann, W.H., Sheppard, L.A. and Brunner, A.M. 1995. Expression of floral homeotic genes in *Populus* and use for engineering reproductive sterility. IUFRO, Somatic Cell and Molecular Genetics of Forest Trees; Ghent, Belgium; 26-30 Sept. 1995 (invited).

Meilan, R. 1991. Cytokinins and episodic growth in red pine. Northern Container Nursery Association. Ames, IA; 17 January 1991 (invited).

Meilan, R. 1989. The putative role played by cytokinins in the control of episodic growth in red pine seedlings. Catedra de Fisiologia Vegetal, Universidad de Oviedo, Spain; 5 Dec. 1989 (invited).

Meilan, R., Hillson, T.D., and Schultz, R.C. 1986. The use of monoclonal antibodies to assay for plant growth regulators. Iowa Academy of Sciences. Waverly, IA; 25-26 May 1986 (invited).

Meilan, R. and Bigg, W.L. 1984. The development of a simplified approach to the measurement of root growth capacity. *In*: Proceedings of the Western Forestry Conference. Sacramento, CA; 3-5 December 1984 (invited).

Teaching Experience

- Tree Physiology (FNR 434), Purdue University, Fall 2004-19.
- Oral Exam Preparation (FNR 691A), Purdue University, Spring 2006 and 2008-20.
- Silviculture (FNR 339), Purdue University, Fall 2018.
- Summer Practicum (FNR 372), Purdue University, Summer 2017-18.
- Guest lectures in The World's Forests and Society (FNR 230): Purdue University, Fall 2005-19.
- Guest lecture in Environmental, Ecological, and Engineering Systems (EEE 250), Purdue University, Fall 2012.
- Guest lectures in Introduction to Forestry and Natural Resources Academic Programs (AGR 119), Purdue University, Fall 2010-17, 2019.
- Guest lecture in Leadership for Organizational Change (OLS 386), Purdue University, Spring 2007.
- Guest lecture in Forest Regeneration (FNR 535): Purdue University, Fall 2006-15, 2018, 2020.

- Guest lectures in Principles of Silviculture (FNR 339), Fall 2005-06.
- Co-taught International Natural Resources Summer Program (FNR 460), Summer 2006-08.
- Molecular Tree Physiology (FNR 691T), Purdue University, Spring 2005.
- Guest lecture in Biotechnology in Agriculture (Hort 350), Purdue University, Fall 2003-07, Spring 2009-10.
- Oral Exam Preparation course, OSU, Fall 1995-96, Winter 2000-03.
- Guest lecture concerning the potential effects of genetically engineered plants on native flora given in a course entitled: "Biology of Invasive Plants", OSU, Fall 2001-02.
- Mentored an M.S. student for a term project in Environmental Science (ES 520, Spring 2001)
- Guest lecture entitled: "Genetically engineered plants: Potential effects on crops, weeds, and native flora" given in a course on Weed Ecology and Management, OSU, Fall 2000-01.
- Guest lectures in Current Research in Forest Science, OSU, Fall 1995-2000.
- Delivered a series of lectures on various aspects of molecular biology at institutions throughout China (Chinese Forestry Academy, Beijing; Shandong Agricultural University in Taian; Northwest Agricultural University and the Northwest Forestry University, both in Yangling; and the Nanjing Forestry University), 21 May-9 June 1999 (invited).
- Mentored numerous high-school students over several summers through the Apprenticeships in Science and Engineering program (organized by Saturday Academy and subsidized by OSU).
- Guest lectures (3) in Physiology of Woody Plants, OSU, Fall 1996.
- lecture in Environmental Ethics, OSU, Spring 1996.
- Fundamentals of Botany, lecture and laboratory, ISU, Spring 1990.
- Ecology of Lodgepole Pine in Yellowstone NP, field course, ISU, Jan. 1988.
- Assisted with Silvics, lecture and laboratory, every fall term while at ISU.
- Forest Biology, ISU Forestry Summer Camp, Cloquet, MN, 1986.
- Multiple-Use Operations, ISU Forestry Summer Camp, Cloquet, MN, 1986.
- BASIC Programming, laboratory, HSU, 1984.
- Physiological Tree Ecology, laboratory, HSU, 1984.

Outreach

Professional

- Authored an opinion piece that appeared in the "Reaction" section of the *Journal of Forestry* [100(5):48].

News Media

Source of information for various stories in the popular press.

- Featured in a story by Brian Wallheimer entitled "Scientists develop efficient methods to turn woody biomass into fuels" that appeared in *Purdue Today* on 23 October 2019.
- *News* on 8 October 2012
- Featured in a story by Kari Lydersen about clean energy innovations that appeared in *Midwest Energy News* on 8 October 2012.
- Featured in a story by Rob Earnshaw about woody feedstocks for biofuel production that appeared in the *Northwest Indiana Times*, 22 August 2012.
- Interviewed by the science editor for the *Financial Times*, Clive Cookson, for a story on genetically modified trees that appeared in their weekend magazine insert, 21 July 2012.
- Commentary piece about my biofuels work entitled "Alternative biofuel research furthers need", which appeared in the 30 November 2011 issue of the *Purdue Exponent*.

- Stories in two issues of *EnergyLines* (July 2011 and November 2011) describing poplar species suitability and yield studies being conducted at Pinney Purdue Agricultural Center (PAC) and SWPAC, which are supported, in part, by Hoosier Energy.
- An article in the August 2011 issue of *Electric Consumer* entitled: "Purdue Studies Fuel, Crop Potential".
- Feature story in 26 October 2011 issue of *Ethanol and Biofuels News* entitled: "Purdue Researchers Explore Poplars as Biofuel Feedstock".
- A story entitled "Put a Tree in Your Tank? Ethanol Research Centers on Poplars" written by Steve Leer (Senior Writer, Ag Communications, Purdue University) that was posted on a wire service was picked up by a number of outlets (*U.S. Fed News Service*, *Biofuels Journal*, *BioenergySite Newsletter*, *Ethanol Producer Magazine*, *Ethanol Market*, *Crop Biotech Update*, *Silobreaker*, *Purdue Exponent*, and *Indiana and Illinois AgriNews*).
- Story by Brian Wallheimer entitled "Passing the Torch", which appeared in the Summer 2011 issue of **Agri***cultures* Magazine (Purdue University).
- A story about my poplar research program will appear in the Spring 2011 issue of **Agri***cultures* Magazine.
- My phytoremediation research was featured in a special "Green Issue" of Purdue Agriculture's *Connections* (vol. 17, no. 3). Fall 2008.
- Story about my research on the use of transgenic poplar for phytoremediation in issue of **Agri***cultures* Magazine (Purdue University). Spring 2008.
- Worked with staff writer Sarah Smith of *Biomass Magazine* on a story related to phytoremediation with genetically engineered poplar (http://www.biomassmagazine.com/article.jsp?article_id=1608).
- Worked with reporter Lisa Fipps and Max Gates (Safety and Regulatory Communications, Chrysler Corporation) on a story entitled: "Fighting pollution the poplar way: Trees to clean up Indiana site," which was published in the *Kokomo Perspective*. February 2008.
- Interviewed by Andrew Pollack, Biotechnology reporter, *The New York Times*, for a story on engineering trees as a feedstock for biofuel production (1 August 2007; story printed 20 November).
- Met with Des Keller to discuss a story about bioenergy crops he is writing for *Progressive Farmer* magazine (25 July 2007).
- Spoke with Eli Kintisch from *Science* about a story profiling Clint Chapple (13 December 2006).
- Spoke with Laura Vanderkam from *Reader's Digest* about a story concerning the poplar biofuels (lignin) project for about 30 minutes on 19 September 2006 (published in December 2006).
- Worked with Susan Steeves (Ag. Communications, Purdue University) for a news release on poplars being genetically engineered of lignin modification (released 23 August 2006).
- Interviewed by Mike Lednovich of *Golf Week* magazine for a story concerning the effects of boring insects on trees growing on golf courses (6 March 2006).
- Interviewed by Curt Slider from the *Journal and Courier* (West Lafayette, IN) about a story on Emerald Ash Borer that appeared in the 25 January 2006 issue.
- Featured in a story in **Agri***cultures* (Purdue University, Fall 2005 issue) by Jenny Cutraro.
- Featured in a Purdue Businessmakers ad produced by Hetrick Communications (Indianapolis, IN) that began being aired on television stations in the Indianapolis area beginning November 2005.
- An article about fall colors by Dave Evenson with the *Republic* (newspaper) in Columbus, IN; 19 October 2005.
- A story concerning the Emerald Ash Borer by Carrie Spencer Ghose, Associated Press, Columbus, Ohio; 17 October 2005.
- On 22 April 2005, spoke with Geoffrey Lean, Environment Editor, *Independent on Sunday*, London, about a quote attributed to Meilan in a story featured in *Science News* (16 April 2005; 167(16):246)

(http://www.sciencenews.org/articles/20050416/fob7.asp); subsequently quoted in a story (http://news.independent.co.uk/low_res/story.jsp?story=632444&host=3&dir=507).

- A piece on phytoremediation by Ben Harder, Staff Writer, *Science News*); 11 April 2005.
- A story by Reni Winter, the local deputy editor with the *Journal and Courier*, on the BioCrossroads report and HTIRC; 5 April 2005.
- An article on GM technology by free-lance journalist Harvey Black on 3 and 13 January 2005. The resulting story was posted on the UPI wire service and featured on the Washington Times website http://www.washtimes.com/upi-breaking/20050201-101044-4763r.htm).
- A story by Jenny Cutraro, Purdue Ag. Communications, describing NSF sponsorship of the HTIRC. 13 September 2004. The story was scheduled to be released to various wire services on Monday, September 27.
- A story on the poplar genomic sequence and carbon sequestration by Kris Christen, Environmental Science and Technology magazine (March 1, 2005, Volume 39, Issue 5), 11 August 2004.
- A press release by Jennifer Cutraro, Purdue University Ag. Communications, entitled "Domesticated tree crops may be the 'future of forestry'"; 10 May 2004. [This story was reprinted by numerous outlets, including the *Indiana AgriNews* (4 June 2004 issue).]
- A story entitled "Domesticated Trees May Be the Future of Forestry" by Joseph M. Smith, Editor, *The Forestry Source* (July 2004 issue).
- A piece entitled "Government scientists perfecting technology to breed a better tree," by Ellyn Ferguson, Gannett News Service, Washington, D.C.
- A story on tree domestication by Andrew Fuller, anchor/reporter, WLFI (Channel 18), that aired during their nightly news on 31 May 2004.
- A segment on gene discovery by Chris Bolick, *Living on Earth*, NPR (Boston, MA).
- A story on carbon sequestration by Sam Jaffe, *Scientist* magazine, Philadelphia, PA.
- An article entitled: "Researcher talks genetic alterations at forum", The Observer (LaGrande, OR), 15 October 2001.
- A KVAL television (Eugene, Oregon) news story by Mary Brandenburger about eco-terrorism, aired 4 August 2001.
- An article entitled: "Biotech Conference Examines Political, Scientific Advancement in New Century" by Mark Engler for the Capital Press, to be published 3 August 2001.
- A KEZI television (Eugene, Oregon) news story by Simon Gutierrez about transgenic trees, aired 1 August 2001.
- A National Public Radio story by Kristian Fodin-Vencil about transgenic trees, aired 25 July 2001.
- An article entitled: "Scientists see wood supply in genetically engineered trees", *St. Louis Post-Dispatch*, 18 June 2001.
- Letters to the Editor of the Oregonian regarding their coverage of eco-terrorism, 6 and 31 May 2001.
- An Op-Ed piece on eco-terrorism that was published in the 7 April 2001 issue of the *Salem Statesman Journal*.
- An article entitled: "OSU researchers creating perfect poplar", Capital Press, 9 March 2001.
- A short news story about genetically modified trees by Kathryn Brown for *Technology Review*, a national magazine published by MIT, December 2000.
- A story on genetically modified (GM) trees by Paul Bogard for *Audubon* magazine, October 2000.
- A story on the environmental implications of genetically modified organisms (GMOs) by Mary Hoff that appeared in the January-February 2001 issue of *Minnesota Conservation Volunteer* magazine, September 2000.
- A news article by Sharon Schmickel and Tom Meersman entitled: "Field tests of GM trees cause sparks", *Minneapolis Star Tribune*, 30 May 2000.

- An article by Mary Mahoney, *Fergus Falls Daily Journal* (MN); she was writing about transgenic trees, 31 May 2000.
- An Extension Bulletin by Doug Holman, Education Specialist, Otter Tail County, MN; he was writing about GM trees, 31 May 2000.
- A news story entitled: "Pop culture poplars: New trees for a new millennium", *The Daily Barometer*, 4 November 1999.
- An article entitled: "Poplars grow into popular crop", *The Oregonian*, 4 March 1997.
- An article entitled: "OSU building better poplars", *Capital Press*, 29 November 1996.

Oral Presentations

- Meilan, R. Tree Physiology. Arborist Certification Conference; Indianapolis, IN; 15 November 2006, 16 October 2007, 21 October 2008, and 15 February 2010.
- "Genetically Engineering Trees;" 2005 4H Plant Science Workshop; 10 June 2005.
- "How and Why We Genetically Engineer Trees," Washington Township Middle School's "Learning under the Sun" program, June 10, 2004 (two separate, 40-minute presentations). "Genetic Engineering," 2004 4H Plant Science Workshop, 11 June 2004.
- "Poplar as an Alternative Crop for Oregon", presented at the "Establishment and Management of Forest Trees in the Willamette Valley" workshop, hosted by OSU Extension, Corvallis, OR, 15 October 2002 (invited).
- Genetically Modified Trees: Separating Facts from Myths. The Blue Mountain Chapter, Society of American Foresters, and OSU Extension, LaGrande, OR, 18 October 2001 (invited).
- Lab tour and discussion about biotechnology for a 5th-grade class from Mountain View School, Corvallis, 5 May 2000 (invited).
- Building a Better Poplar through Genetic Engineering, a presentation to the Corvallis Lions Club, 7 April 2000 (invited).
- GMO's: What They Are, How We Make Them, and Why. Roseburg Chapter, Society of American Foresters, Roseburg, OR, 30 March 2000 (invited).
- Gene splicing for better trees. Emerald Chapter, Society of American Foresters, Eugene, OR, 12 January 2000 (invited).
- Roundup-Ready® technology and its use with trees. Cooperative Extension, Washington State University, Vancouver, 6 January 2000 (invited).

Service Work

Purdue University

- Senator, Purdue University Senate; three-year term, beginning Fall 2020.
- College of Agriculture Facilities Committee, 2017-present.
- Steering Committee Center for Plant Biology (CPB), 2017-present.
- Search Committee to hire 10 new faculty members for the CPB, 2014-17.
- Search Committee, Director for the Center for Molecular Agriculture (now the CPB), 2014.
- Department of Forestry and Natural Resources (FNR) Budget and Steering, 2011-17.
- FNR Sustainability Committee, 2011-present.
- FNR Primary Committee, 2007-present.
- Organized the FNR's annual research symposium, 2005-present.
- FNR Greenhouse Committee, 2003-present (Chair).
- College of Agriculture (CoA) Plant Science Initiative Committee, 2009-10.
- CoA Plant Sciences Core Curriculum Committee, 2009-10.

- CoA of Agriculture Honors Committee, 2008-?
- PULSe Graduate Admissions Committee, 2008-10.
- Hardwood Silviculture Assistant Professor Search Committee, 2007.
- Advisor for the FNR *Compass* magazine, 2006-2012.
- CoA Policy and Agenda Committee, 2006-07.
- Agenda and Policy Committee 2005-08, (Chair during 2006-07 academic year).
- CoA Leadership Development Certificate program, 2005-present.
- FESSL/MTPL Laboratory Manager Search Committee, Chair, 2005
- Member of Forest Entomology Search Committee, 2005.
- Institutional Biosafety Committee, 2004-13.
- FNR Equipment Committee, 2004-12.
- FNR Graduate Committee, 2004-09.
- FNR Computer Committee, 2003-04.

West Lafayette Community

- Lafayette Noon Optimist Club (organizing annual Christmas tree sale), 2019-present.
- NICHES (regional land trust) Board of Directors, 2007-2009.

Oregon State University

- Asked to moderate a session and gave a prepared statement at the USDA/APHIS Forest and Fruit Tree Biotechnology Workshop (a meeting to obtain public input on the regulations needed for commercial deployment of transgenic trees); Greenbelt, MD; 8-9 July 2003.
- Coordinator of the panel to write the Tissue Culture and Transformation section of the Science Plan for the International *Populus* Genome Consortium.
- Served on the OSU Forest Science Department's Space Utilization Committee.
- Invited to give testimony at a public hearing hosted by CAST and APHIS entitled: "Biotechnology-derived Perennial Turf and Forage Grasses: Criteria for Evaluation"; Baltimore, MD; January 2003.
- Served on search committees for the Associate Director of PNWTIRC and the Biotechnology Coordinator for TGERC; November and December 2002.
- Asked to serve on the Institutional Biosafety Committee at the Institute of Forest Genetics, USFS, Davis, CA.
- Served on P&T review committee for Amy Brunner's conversion from Faculty Research Associate to Research Assistant Professor.
- Served on organization committee for Winter Festival (College of Forestry's annual awards banquet), January 2002.
- Gave testimony at two public hearings conducted by the Oregon Department of Agriculture concerning the establishment of an exclusionary zone for genetically modified grasses; Madras, OR; 19 November 2001, 21 June 2002.
- Participated in an organizational meeting that led to the establishment of the Western Forest and Fiber Security Group, 19 July 2001.
- Advised Drs. Tim White (Provost) and Rob Specter (VP, Finance and Administration) on security measures for the University, 3 July 2001.
- Briefed the Executive Committee of the Faculty Senate on eco-terrorism and advised them on a resolution, 13 June 2001.
- Contributed to the design of a security system for protecting Richardson Hall from vandalism.
- Served on the Industrial Research Cooperative Forum Steering Committee.

- Participated in the Campus-wide GMO Issues Group (appointed by Vice Provost for Research).
- Helped deliver a seminar entitled: "Genetic Engineering in Oregon Agriculture" to the House Agriculture Committee in Salem, 13 February 2001.
- Helped organize two events (a party and a formal banquet) to honor the former Forest Science
- Department Head, Logan Norris, on the occasion of his retirement, and was commissioned by the Department to build his retirement gift (November 2000-January 2001).
- Assisted in the coordination of a Study Tour for officials from the Indian Council for Forestry Research and Education, 8 September 2000. This has led to the development of a training program in which researchers from various institutions in India are sent to OSU for 12-week sessions.
- Judged prepared speeches and chokersetting competitions for the 2000 Associated Oregon Forestry Clubs Annual Skills Contest (12-13 May 2000).
- Judged oral presentations for the OSU Graduate Student Conference 2000, Health and Human Performance Division.
- Served on Graduate Committees for six graduate students (Jingyi Li, Susan McDowell, Rozi Mohamed, Yueju Wang, Hao Wei, Junyuan Wu).
- Containment Director, APHIS-approved Non-indigenous Arthropod Quarantine Research Facility
- Chairman, Forest Research Laboratory Plant Growth Facilities Committee.
- Building Committee (helped design Richardson Hall, including research laboratories and support, quarantine and greenhouse facilities).
- Conducted numerous lab field tours for FRL Advisory Committee, various donors, guests, and international contingents (*e.g.*, The Swanson family, Chinese forestry delegations, Population Genetics Study Tours for visitors from the Turkish Ministry of Forestry, etc.).
- Search Committee for Associate Director of the Pacific Northwest Tree Improvement Research Cooperative.
- Search Committee for Sustainable Forestry Colloquium Director.
- Committee member for four Promotion & Tenure reviews.
- Search committees for two Faculty Research Associates and seven Faculty Research Assistants.
- Search committee for TGERC Administrative Assistant.
- COF Fall Barbeque Committee, 1995.

University of Missouri—Columbia

- Technical advisor for biotechnology exhibit at Missouri Botanical Gardens, St. Louis.
- Science-by-Mail pen pal for junior-high school students.
- Plant Group Booth volunteer at annual Celebrate Agri-Missouri exhibit.

Iowa State University

- Graduate student representative, Forestry Department curriculum committee.
- Graduate student representative, Forestry Department admissions committee.
- Chapter president of Xi Sigma Pi.
- ISU state fair booth volunteer.
- Hawkeye Science Fair judge, junior-high division; 1986, 1987, 1988, 1990.

Synergistic Activities and Professional Recognition

- Midwest Aviation Sustainable Biofuels Initiative (MASBI) Feedstock Working Group.
- Invited to participate in a workshop entitled: "Social and Environmental Implication Related to GMT: Where We Are, and Where We Go?" related to the European Cooperation in Science and Technology

(COST) Action FP0905 to be held at the Euroscience Open Forum (ESOF) 2012; Dublin, July 11-15, 2012.

- Serving on the Scientific Advisory Board for a Genome Canada Large Applied Genomics Innovation Project entitled "POPCAN: Genetic improvement of poplar trees as a Canadian bioenergy feedstock".
- Asked to conduct a research program review of Genomica Forestal; Concepción, Chile, Dec. 2010
- Asked to serve on the Editorial Board for *Tree Physiology* beginning in 2008.
- Edited a glossary of Tree Physiology terms for the Society of American Foresters, 2009.
- Invited to attend the annual Purdue "Inventors' Recognition Dinner" hosted by President France Córdova and Interim Provost Vic Lechtenberg during which faculty were acknowledged for patents on which they had been listed as inventor (10 October 2007).
- Honored at a "Seed for Success" luncheon hosted by Provost Sally Mason and VP for Research Chip Rutledge, at which they recognized faculty who are involved in projects that have generated over $1 million (28 February 2007).
- Recipient of the Exceptional Departmental Service award, Department of Forestry and Natural Resources, Purdue University (November 2006).
- Asked to serve as a member of the review panel for USDA's NRI Developmental Processes of Agricultural Plants Program (2006 and 2009).
- Invited by the Canadian Forest Service to serve on a panel to review research proposals for their *Canadian Regulatory System for Biotechnology Initiative* for 2006-09 (March 2006).
- Served as chair of the C6 Physiology Working Group for the Society of American Foresters. Term began 1 January 2006.
- Recipient of the 2000 Dean's Award for Outstanding Achievement (January 2001)
- External reviewer for a candidate being considered for promotion to Associate Professor with tenure at Katholieke Universiteit in Leuven, Belgium.
- Ad Hoc Grant Reviewer: USDA NRI Competitive Grants Program, Consortium for Plant Biotechnology Research, Belgium Fund for Scientific Research.
- Ad Hoc Journal Reviewer: *American Journal of Botany*, *Canadian Journal of Forest Research*, *Canadian Journal of Microbiology*, *In Vitro Plant*, *Journal of Plant Growth Regulation*, *Nature Biotechnology*, *Physiologia Plantarum*, *Plant Cell Reports*, and *Trees*, among others.
- Excellence in Research Award, ISU, 1990.
- C.E. Farnsworth Memorial Award, ISU Forestry Department, 1988.
- Sigma Xi (National Scientific Honor Society) Grant, 1987.
- Two-year Premium for Academic Excellence (PACE) Award, ISU, 1985-86.
- Woolford Fellowship, Eureka Rotary Club, 1984.
- James Blessing Memorial Scholarship, Industrial Electric Service Company, Arcata, CA, 1982.
- Bank of America Foundation Scholarship, 1981.
- President's Trophy, Feather River College, 1979.

Workshops and Symposia

Helped organize the China-U.S. 2011 Joint Symposium on Global Sustainability Issues in Energy, Climate, Water and Environment; 26-29 September 2011.

Moderated the Tissue Culture session at the 2009 IUFRO Tree Biotechnology Conference, Whistler, B.C., 30 June 2009.

Served on the Scientific/Organizing Committee for the 5th International meeting on adventitious root formation: From cell fate flexibility to root meristem determination and biomass formation, to be held in Alcalá de Henares, Madrid, Spain, 16-20 June 2008.

Co-organized the North American Forest Biology Workshop, Bloomington, IN, 20-23 May 2007.

Served as the co-chair of a symposium on embryogenesis, regeneration, tissue culture and transformation held at the IUFRO Tree Biotechnology Meeting in Pretoria, South Africa, 6-11 November 2005.

Invited to participate in the meeting organized by the Institute for Forest Biotechnology entitled: "Modifying Reproduction in Urban Trees" and held at Research Triangle Park, North Carolina, 12-13 February 2003.

Co-organized an IUFRO-sponsored conference entitled: "Tree Biotechnology in the New Millennium" held at Skamania Lodge, Stevenson WA, Columbia River Gorge, on 22-27 July 2001.

Participated in the Biotechnology Communicators' Summit, sponsored by the Council for Agricultural Science and Technology, St. Louis, MO, 18-21 June 2001 (invited).

Attended the NSF's Industry/University Cooperative Research Center program Directors' meeting, Washington, D.C., 10-12 January 2001.

Conducted a "Gene School" held in conjunction with the 1997 and 2000 TGERC Annual Meetings. This workshop introduced the attendees to basic molecular biology concepts and techniques, and was open to TGERC Members and the OSU/PNW research community.

Organized a symposium entitled: "Advances in Molecular Genetics of Forest Trees" for the 78th Annual Meeting of the Pacific Division of the American Association for the Advancement of Science, Corvallis, OR, 22-26 June 1997.

Grants, Contracts, and Gifts

Current and Past

National Science Foundation, STTR Program. Title: "Termite-derived enzymatic tree bio-herbicides"; J. Bargiel (PI), M.E. Scharf, R. Meilan, M.A. Jenkins, and K.D. Wing; $600,000.

U.S. DOE - Office of Science - Office of Basic Energy Sciences - Energy Frontier Research Centers; Title: "Center for Direct Catalytic Conversion of Biomass to Biofuels (C^3Bio)"; M.C. McCann (PI) *et al.*; $12,000,000.

AgSEED; "Increasing the Utility of Bioenergy Crops"; R. Meilan (PI), N.S. Mosier, and M. R. Ladisch.; $50,000.

Fred Fehsenfeld; Prepare a white paper entitled: "An Overview of Carbon Storage and Utility for Various Types of Agricultural Biomass – Indiana; PI: J.W. Sutherland; $20,000 (gift).

FuturaGene; "Field Testing Cell-wall Modified Transgenic Poplar"; R. Meilan; 2013-2016; $210,000.

Hoosier Energy, "Poplar Species Suitability and Yield", 2011-2017, $25,000.

Hoosier Energy; "The Use of *Populus* Plantings for Leachate Absorption and Acoustic Abatement, Phase II"; $7,014.

Hoosier Energy; "The Use of *Populus* Plantings for Leachate Absorption and Acoustic Abatement"; R. Meilan (PI) and B.C. Pijanowski, 2012-2016, $126,269.

Brandt Consolidated, Inc.; Title: "Voluntary Support for Conducting Research Related to Low-pressure Injection Systems"; 2012-2012; $2,543.

FuturaGene, Inc.; Voluntary Support for Conducting Research Related to Poplar Transformation; 2012-2012; $100,000.

FuturaGene, "Improving Water Relations in Poplar", 2011-2012, $50,000.

Mary S. Rice Foundation, Purdue University; "Fertigating poplar plantations to assess productivity effects"; R. Meilan, D.L. Cassens, D.E. Carlson; 03/01/10-02/28/11; $10,000.

Consortium for Plant Biotechnology Research (CPBR); "Improving water relations of *Populus* for use as bio-energy crop"; R. Meilan; $103,037; 06/01/09-05/31/11.

National Science Foundation; "Center for Advanced Forestry Systems" (for the formation of a multi-site NSF I/UCRC Center between Purdue, Oregon State, North Carolina State, and Virginia Polytechnic Universities); C.H. Michler and R. Meilan; Purdue share: $350,000; 2008-12.

Purdue Research Foundation; "Comparing transcriptome and metabolome profiles of Asian and North American ash species to determine the basis for Emerald Ash Borer resistance"; R. Meilan; 6/1/2008-5/31/2011; $16,750.

Frederick van Eck Foundation; "Comparing transcriptome and metabolome profiles of Asian and North American ash species"; R. Meilan; 01/01/07-12/31/10; $40,000.

Frederick van Eck Foundation; Genetic and phenotypic characterization of figured wood in poplar 01/01/07-12/31/10; $40,000.

Chrysler Corporation; "Transgenic poplars for remediation of a wide range of environmental pollutant"; R. Meilan; 9/1/2007-8/31/2011; $101,835.

Meilan, R. Support from ArborGen for the 2007 North American Forest Biology Workshop (NAFBW); 1/07; $5,000.

Meilan, R. Support from the Weyerhaeuser Company Foundation for the 2007 NAFBW; 3/07; $5,000.

Energy Center, Discovery Park; "Engineering of poplar for bio-ethanol production: An integrated approach"; C.C.S. Chapple, M.R. Ladisch, and R. Meilan; 06/01/06-05/31/07; $50,000.

DOE, Plant Feedstock Genomics for Bioenergy; "Manipulation of lignin biosynthesis to maximize ethanol production from *Populus* feedstocks"; C.C.S. Chapple, M.R. Ladisch, and R. Meilan; 11/01/06-10/31/09; $1,400,000.

DOE Poplar Genome-based Research for Carbon Sequestration in Terrestrial Ecosystems program; "Genome-enabled modification of poplar root development for increased carbon sequestration"; R.

Meilan, V.B. Busov, and T.J. Tschaplinski; 8/1/05-7/31/08; $1,219,940. Voluntary support from Dr. Samuel Grober, Evanston, IL, for a project entitled: "Genetic and phenotypic characterization of figured wood in *Populus*"; R. Meilan; $28,000 (2004-07).

CPBR; "Development of herbicide-tolerant black walnut"; R. Meilan. C.H. Michler, P.M. Pijut, J.R. Seifert; $81,000.

U.S. Forest Service, Cooperative Agreement; "Genetic and phenotypic characterization of figured wood in poplar;" R. Meilan; $75,300.

National Science Foundation; "Center for Tree Genetics: The Formation of a Joint NSF I/UCRC between Purdue University and Oregon State University"; C.H. Michler and R. Meilan; $400,000.

USDA Biotechnology Risk Assessment Research Grants Program (BRARGP); "Field tests of transgene confinement strategies in trees: Evaluation of ablation, gene suppression, and flowering onset genesin poplar"; R. Meilan (PI), A.M. Brunner, and S.H. Strauss; $358,000; 9/03-8/06.

National Science Foundation (NSF) Research Experience for Undergraduates (REU) program; "Genes controlling the vegetative to floral Transition in *Populus*"; R. Meilan; $10,000; Summer 2003.

U.S. Dept. of Energy (DOE) Terrestrial Carbon Sequestration; "Genome-enabled discovery of carbon sequestration genes in *Populus*"; S.H. Strauss, R. Meilan, and A.M. Brunner; $1,180,386.

College of Forestry Innovative Grant, "Douglas-fir genomics in interdisciplinary research in forest science"; A. Brunner, G. Howe, B. Bond, R. Meilan, S. Strauss; $60,000; FY02-03.

J. Frank Schmidt Family Charity, "Development of Fruitless Tree Varieties via Biotechnology" S.H. Strauss and R. Meilan; $8,000; 10/1/02-9/30/03.

NSF INT Program, "Recruitment Trip to Thailand for the Tree Genetics Center Co-Directors" R. Meilan, $3,430; 05/01/02-09/01/02.

USDA-CSREES, "Phase Change and Seasonal Floral Initiation in *Populus*" A.M. Brunner and R. Meilan, $115,300; 8/1/02-7/31/04.

Consortium for Plant Biotechnology Research (CPBR); "Genetic engineering to maintain high biomass productivity in transgenic sterile trees"; R. Meilan (PI), S.H. Strauss, and A.M. Brunner; $52,500; 7/02-6/04.

CPBR; "Identification of major genes via activation tagging in *Populus*"; S.H. Strauss, A.M. Brunner, and R. Meilan; $37,500; 7/02-6/04.

DOE; "Accelerated Domestication of *Populus*"; S.H. Strauss and R. Meilan; $50,000; 3/02-3/10.

DOE/Agenda 2020; "Development and validation of sterility systems for trees"; A.M. Brunner, S.H. Strauss, and R. Meilan; $587,893; 10/01-9/04.

Indian Council of Forestry Research & Education; "Training Program for Dr. T.S. Rathore in Forest Biotechnology"; R. Meilan; $7,986; 4/1/01-6/30/01.

NSF REU program; "Screening trap lines for genes involved in rooting"; R. Meilan; $5,000; Summer 2001.

USDA Biotechnology Risk Assessment Research Program; "Symposium on Ecological and Social Aspects of Transgenic Forest Plantations"; S.H. Strauss, R. Meilan, and J. Carson; $26,841; 10/00-9/01.

USDA-IFAFS Program, "Flowering Control in Transgenic Trees: Stability and RNAi Gene Suppression," S.H. Strauss, A.M. Brunner, S.P. DiFazio, J.S. Skinner, and R. Meilan (Coordinator); $539,000; 9/00-8/04.

DOE Biofuels/Battelle, "Continued DOE Support for the Tree Genetic Engineering Research Cooperative"; S.H. Strauss and R. Meilan; $250,000; 2000-2004.

National Science Foundation (NSF) Research Experience for Undergraduates (REU) program; "Cloning Disease Resistance Genes"; R. Meilan; $5,000; Summer 2000.

NSF I/UCRC Program, "Tree Genetic Engineering Research Center"; S.H. Strauss, R. Meilan, A.M. Brunner, J.S. Skinner, and S.P. DiFazio; $315,000; 7/99-6/04.

The Tree Genetic Engineering Research Cooperative, second five-year phase (1999-2004). Ten Regular Members. S.H. Strauss and R. Meilan. Dues: $25,000/member/year.

NSF, "Planning Grant: I/UCRC Center in Tree Genetic Engineering"; S.H. Strauss and R. Meilan; $10,000, 9/98-8/99.

USDA Forest Service, North Central Forest Experiment Station; "Evaluation of the *bO* Gene in Transgenic Poplars"; S.H. Strauss, R. Mohamed, and R. Meilan; $15,000; 5/97-4/98.

Oregon Department of Agriculture, Center for Applied Agricultural Research; "Glyphosate-resistant Cottonwoods for Oregon Fiber Farms"; R. Meilan and S.H. Strauss; $51,623; 2/95-6/97.

DOE Biofuels/Martin Marietta, "DOE support for the Tree Genetic Engineering Research Cooperative"; $98,000; 1994-1999.

The Tree Genetic Engineering Research Cooperative, first five-year phase (1994-1999). Fourteen dues-paying members, including 10 paper, pulp, and timber companies; the Electrical Power Research Institute; Shell; and Monsanto; S.H. Strauss and R. Meilan; $1,510,000.

OSU Research Council, "Predicting Sense Suppression: Application to Floral Homeotic Genes"; R. Meilan; $8,000; 7/95-6/96.