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STEVEN H. STRAUSS

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University Distinguished Professor of Forest Biotechnology

Phone: 541/737-6578

Department of Forest Ecosystems and Society
Corvallis, Oregon, USA 97331-5752

Fax: 541/737-1393

Oregon State University

Email: steve.strauss@oregonstate.edu

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PROFESSIONAL EXPERIENCE

7/09-present **University Distinguished Professor**, Oregon State University
1/18-present **Graduate Faculty**, Environmental Sciences
1/18-present **Graduate Faculty**, Environmental Sciences
3/14 **Visiting Scientist**, Scion (Forest Biotechnology), New Zealand
11/04-12/13 **Director**, Outreach in Biotechnology, Oregon State University
2003-2012 **Editor**, New Phytologist
7/95-present **Professor**, Forest Ecosystems and Society; Molecular & Cellular Biology
1/01-4/01 **Visiting Senior Fellow**, Linacre College, Oxford University, UK
1/01-4/01 **Visiting Scientist**, Department of Plant Science, Oxford Forestry Institute, UK
7/90-6/95 **Associate Professor**, Department of Forest Science, OSU
7/94-present **Director, Tree Genomics and Biosafety Research Cooperative**, OSU
7/99-6/04 **Director, National Science Foundation Center for Tree Genetics**
(Industry/University Cooperative Research Centers Program)
6/93-8/93 **Visiting Scientist**, INRA, Versailles & Orleans, France
9/91-6/92 **Visiting Professor**, Australian National University, Canberra, Australia
9/91-6/92 **Visiting Scientist**, CSIRO Division of Plant Industry, Canberra, Australia
6/90-7/90 **Visiting Scientist**, Department of Botany, Tromsø University, Norway
7/85-6/90 **Assistant Professor**, Department of Forest Science and Genetics Program, OSU
7/85-9/85 **Visiting Scientist**, US Forest Service, Berkeley, California (Sederoff laboratory)

EDUCATION

Ph.D. 1985 **University of California at Berkeley**, Forest Resources (Genetics)
M.F.S. 1980 **Yale University**, School of Forestry and Environmental Studies (Forest Science)
B.S. 1978 **Cornell University**, College of Agriculture and Life Science (Biology)

PROFESSIONAL CONTRIBUTIONS

Honors and Professional Work

Summary

- ◆ Peer review publications: ~190. Other articles: ~70. Edited books/symposia volumes: 3. Invited lectures: ~300.
- ◆ Obtained grants from NSF, DOE, USDA, NIH, EPA, forest industries, and other sources totaling ~24 million dollars.
- ◆ Trained ~30 graduate students, 30 postdoctoral scientists, and more than 50 technical/professional employees (BS or higher degrees).

Professional recognition

- ◆ Oregon State University Industry Partnering Award, 2014
- ◆ Barrington-Moore Memorial Award from the Society of American Foresters, recognizing outstanding achievement in biological research leading to the advancement of forestry, 2011.
- ◆ Fellow, American Association for the Advancement of Science, 2009
- ◆ Forest Biotechnologist of the Year, Forest Biotechnology Partners, Institute of Forest Biotechnology, 2009
- ◆ Distinguished Professor of Forest Biotechnology, Oregon State University, 2008

Scientific meetings organized or co-organized

- ◆ Chair and organizer of New Phytologist Symposium on “Physiological Sculpture of Plants,” Mt. Hood, Oregon, September 2008.
- ◆ Chair Scientific Organization Committee, Workshop on Horticultural, Urban Forestry, Health and Environmental Benefits of Flowering Modification in Transgenic Trees, Institute for Forest Biotechnology/North Carolina Biotechnology Center, February 2003.
- ◆ Lead organizer, International Symposia on Ecological and Societal Aspects of Transgenic Plantations, and International Organization of Forest Research Organizations (IUFRO) Section on Molecular Biology of Forest Trees. Stevenson, Washington, USA, 2001.
- ◆ Co-convenor of session on tree biotechnology, AAAS Pacific Division Meeting, Corvallis, OR, 1997

Science advisory committees

- ◆ Member, Science Review Committee, The American Chestnut Foundation, Virginia, 2018
- ◆ Chair, Scientific Advisory Committee, Forest Health Initiative, Institute of Forest Biotechnology, NC, 2012-2017.
- ◆ Member, Scientific Advisory Committee, Forest Health Initiative, Institute of Forest Biotechnology, NC, 2009-2011.
- ◆ Scientific Advisory Committee, Genome BC Applied Genomics Innovation Program, “Optimized *Populus* feedstocks and novel enzyme systems for a British Columbia bioenergy sector,” 2008-2011

- ◆ Chair, Scientific Advisory Board, Genome Canada-Quebec research consortium “Arborea,” studying “Functional Genomics of Regulation of Trees,” Quebec City, Canada, 2003-2006.
- ◆ Leopold Leadership Fellow, Stanford Institute for the Environment, 2005
- ◆ Awarded “Extraordinary Performance” recognition as result of five-year Post-Tenure Review in the College of Forestry, Oregon State University, September 2002
- ◆ Mentor’s Hall of Fame, Oregon State University Apprenticeships in Science and Engineering, 2006 (Mentor 1993-2011)
- ◆ NSF Presidential (Young) Investigator, 1989
- ◆ Phi Kappa Phi, Oregon State University, Emerging Scholar Award, 1989
- ◆ Dean’s Award for Outstanding Achievement, OSU College of Forestry, 1998
- ◆ Chairman, International Union of Forestry Research Organizations Working Party on Molecular Genetics of Forest Trees, S.04-06, 1995-1999
- ◆ External Review Committee, Michael Smith (formerly Biotechnology) Laboratories, University of British Columbia, April 2005
- ◆ Steering Committee Member, International Poplar Genome Sequence, organized by Joint Genomics Institute, Department of Energy, 2001-2003.

Policy and outreach in transgenic biotechnologies

- ◆ Member, Governor’s Task Force on Genetically Engineered Seeds and Agricultural Products, Governor John Kitzhaber, State of Oregon. June 2014 - January 2015.
- ◆ Panelist, Corvallis City Club, Oregon ballot measure 92 on GMO labels, fall 2014
- ◆ Testimony, Citizens Review Initiative Panel on Measure 92, GMO labeling in Oregon, fall 2014
- ◆ Testimony, Citizens Review Panel for Jackson County Measure 15-119, GMO ban, spring 2014
- ◆ Organizer of Food for Thought public outreach lecture series at Oregon State University (filmed and available via web, with curriculum guides for teachers), 2005-2013
- ◆ Committee member, National Research Council, Review and Future Goals for the National Plant Genome Research Program, 2007.
- ◆ Committee member, National Research Council Workshop on Environmental Effects of GMOs. Dept. of the Interior. 2007.
- ◆ Presented invited lectures to federal judges and law professors at the Foundation for Research on Economics and the Environment, July and September 2002 & June 2003, June 2008 and 2009, Bozeman, Montana
- ◆ Invited participant at Institute for Forest Biotechnology Symposium on Genetically Engineered Forest Trees: A Workshop to Identify Priorities for Ecological Risk Assessment. May 3-4, 2007, Raleigh, NC.
- ◆ Invited speaker at Pew Initiative / USDA APHIS sponsored workshop: Emerging Challenges for Biotechnology-Derived Specialty Crops, Washington, DC (January 2007).
- ◆ Invited member of State of Oregon Committee charged to formulate recommendations to the governor on regulation of biopharm crops in Oregon (2005-2006).
- ◆ Led in providing recommendations to USDA APHIS on regulation of genetically engineered crops that were supported by more than 60 scientists, March 2004.
- ◆ Invited speaker at USDA Workshop on Public Research and Regulatory Review of Small-Market Biotechnology-Derived Crops, November 2004, Washington, DC.

- ◆ Invited participant, Pew Initiative on Biotechnology, Workshop on Impacts of Biotech Regulation on Small Business and University Research: Possible Barriers and Potential Solutions, June 2004.
- ◆ Invited speaker in forest biotechnology symposium at United Nations (UNIDO) Global Forum on Biotechnology, Concepcion, Chile, March 2004.
- ◆ Invited speaker at Canadian Forest Service / Canadian Food Inspection Service panel on Regulatory Challenges in Forest Biotechnology, World Forestry Congress, Quebec City, Canada, September 2003.
- ◆ Invited to present lecture on “state of science” at USDA APHIS national meeting on regulation of genetically engineered trees, Greenbelt, MD, July 2003.
- ◆ Invited Science Facilitator at Stakeholder Meeting on USDA Biotechnology Risk Assessment Grant Program Review, Washington, D.C., June 2003.
- ◆ Planning Committee, National Agricultural Biotechnology Council Annual Meeting, Seattle, WA, 2002-2003
- ◆ Steering Committee Member, National Workshop on Risks of Field Testing of Transgenic Crops with Novel Genes, Information Systems for Biotechnology, 2001-2002.
- ◆ Planning Committee, Institute for Forest Biotechnology, Research Triangle Park, North Carolina, 1999-2000
- ◆ Invited to make formal presentation on forest biotechnology to New Zealand Royal Commission on Genetic Modification, 2000.
- ◆ Group Leader, Information Systems for Biotechnology/USDA APHIS Workshop on Ecological Effects of Pest Resistance Genes, 1999

Grant review panels

- ◆ Genome Canada, Large Scale Applied Forest Genomics Research Projects, 2013
- ◆ USDA Biotechnology Risk Assessment, 2011
- ◆ USDA Agricultural Research Service, Ornamentals 2007
- ◆ Consortium for Plant Biotechnology Research, 2006
- ◆ Panel Manager, Biotechnology Risk Assessment Grants, 1999
- ◆ National Science Foundation
 - IGERT: Interdisciplinary Graduate Education Research & Training, 2001
 - Population Biology & Physiological Ecology, 1991
 - Conservation & Restoration Biology, 1990
- ◆ U.S. Department of Agriculture Competitive Grants Review
 - Biotechnology Risk Assessment, 1998
 - Forest Biology, 1990

National Research Council service

- ◆ Plant Genome Research Program, 2007
- ◆ Workshop on Impacts of GMOs on Department of Interior Lands, 2007
- ◆ Reviewer, Biological Confinement of Genetically Engineered Organisms, 2004
- ◆ Review of Biofuels Research Program of the U.S. Department of Energy, 1999
- ◆ Intellectual Property Issues in Plant Biotechnology, 1996
- ◆ NSF Graduate Fellowship, 1993

Member of editorial boards

- ◆ New Phytologist, 2003-2012
- ◆ Biomedcentral Plant Biology Editorial Adviser, 2004-present
- ◆ Tree Genetics and Genomes, 2004-2006
- ◆ New Zealand Journal of Forestry Science, 2005-2010
- ◆ Forestry: An International Journal of Forestry Research, 2002-2010
- ◆ Forest Genetics, 1994-96

REFEREED PUBLICATIONS –2000-present

Note that in my scientific discipline last author position connotes the directing, sponsoring, and/or mentoring author. This is often the principal or secondary author (after the first author) in overall contribution to the work.

Research reports

1. Klocko, A.L., A.L. Goddard, J. Jacobson, A. Magnuson, and S.H Strauss. 2021. [RNAi suppression of *LEAFY* gives stable floral sterility, and reduced growth rate and leaf size, in field grown poplars](#). *Plants* (MDPI).
2. Sow, M.D.; Le Gac, Anne-Laure; Fichot, Régis; Lanciano, Sophie; Delaunay, Alain; Le Jan, Isabelle; Lesage-Descause, Marie-Claude; Citerne, Sylvie; Caius, Jose; Brunaud, Véronique; Soubigou-Taconnat, Ludivine; Cochard, Hervé; Segura, Vincent; Chaparro, Cristian; Grunau, Christoph; Daviaud, Christian; Tost, Jörg; Brignolas, Franck; Strauss, Steven H.; Mirouze, Marie; Maury, Stéphane. 2021. [RNAi suppression of DNA methylation affects drought stress response and genome integrity in transgenic poplar](#). *New Phytologist*. doi: 10.1111/nph.17555
3. Goralogia, G., Glenn Howe, Amy Brunner, Emily Helliwell, Michael Nagle, Cathleen Ma, Amanda Goddard, Anna Magnuson, Amy Klocko, Haiwei Lu, and Steven H. Strauss. 2021. [Overexpression of *SHORT VEGETATIVE PHASE-LIKE \(SVL\)* in *Populus* delays onset and reduces abundance of flowering in field-grown trees](#). *Horticulture Research*.
4. Azeez A., Zhao Y., Singh R., Yordanov Y, Dash M., Miskolczi P., Stojkovič K., Strauss SH, Bhalerao R, Busov V. 2021. [EARLY BUD-BREAK 1 and EARLY BUD-BREAK 3 control resumption of poplar growth after winter dormancy](#). *Nature Communications*.
5. Elorriaga E, Klocko A, Ma C, M Plessis du, An X, Myburg AA, Strauss SH. 2021. [Genetic containment in vegetatively propagated forest trees: CRISPR disruption of *LEAFY* function in *Eucalyptus* gives sterile indeterminate inflorescences and normal juvenile development](#). *Plant Biotechnology Journal*.
6. Lawrence EH, Leichty AR, Doody EE, Ma C, Strauss SH, Poethig RS. 2021. [Vegetative phase change in *Populus tremula* × *alba*](#). *New Phytologist*.
7. Lu H., Strauss S. et al. 2020. [Extensive transcriptome changes during seasonal leaf senescence in field-grown black cottonwood \(*Populus trichocarpa* Nisqually-1\)](#). Scientific Reports (Nature).

8. An X, Gao K, Chen Z, Li J, Yang X, Yang X, Zhou J, Guo T, Zhao T, Huang S et al.. 2021. [Hybrid origin of *Populus tomentosa* Carr. identified through genome sequencing and phylogenomic analysis](#). *Molecular Ecology Resources*
9. Bagley, J. C., Heming, N. M., Gutiérrez, E. E., Devisetty, U. K., Mock, E., Eckert, A. J., & Strauss, S. H. 2020. [Genotyping-by-sequencing and ecological niche modeling illuminate phylogeography, admixture, and Pleistocene range dynamics in quaking aspen \(*Populus tremuloides*\)](#). *Ecology and Evolution*.
10. Monson, R. K., Winkler, B., Rosenstiel, T. N., Block, K., Merl-Pham, J., Strauss, S. H., Ault, K., Maxfield, J., Moore, D. J. P., Trahan, N. A., Neice, A. A., Shlach, I., Barron-Gafford, G. A., Ibsen, P., McCorkel, J. T., Bernhardt, J., & Schnitzler, J.-P. 2020. [High productivity in hybrid-poplar plantations without isoprene emission to the atmosphere](#). *Proceedings of the National Academy of Sciences*, 117(3), 1596–1605.
11. Klocko A, Brunner AM, Ma C, Etherington E, Rosenstiel K, Magnuson A, Taylor BJ, Cappellazzi J, Lockwood T, Covarrubias N., Bao M., Morrell, J, Strauss SH. 2020. [RNAi of *AGAMOUS* genes in sweetgum alters reproductive organ identity and decreases fruit persistence](#). *Plant Direct*.
12. Buhl, C., Strauss, S. H., & Lindroth, R. L. 2019. [Genetic down-regulation of gibberellin results in semi-dwarf poplar but few non-target effects on chemical resistance and tolerance to defoliation](#). *Journal of Plant Ecology*, 12(1), 124–136.
13. Chhetri, H. B., Macaya-Sanz, D., Kainer, D., Biswal, A. K., Evans, L. M., Chen, J., Collins, C., Hunt, K., Mohanty, S. S., Rosenstiel, T., Ryno, D., Winkler, K., Yang, X., Jacobson, D., Mohnen, D., Muchero, W., Strauss, S. H., Tschaplinski, T. J., Tuskan, G. A., & DiFazio, S. P. 2019. [Multitrait genome-wide association analysis of *Populus trichocarpa* identifies key polymorphisms controlling morphological and physiological traits](#). *New Phytologist*, 223(1), 293–309.
14. Cope, K. R., Bascaules, A., Irving, T. B., Venkateshwaran, M., Maeda, J., Garcia, K., Rush, T. A., Ma, C., Labbé, J., Jawdy, S., Steigerwald, E., Setzke, J., Fung, E., Schnell, K. G., Wang, Y., Schleif, N., Bücking, H., Strauss, S. H., Maillet, F., ... Ané, J.-M. 2019. [The Ectomycorrhizal Fungus *Laccaria bicolor* Produces Lipochitooligosaccharides and Uses the Common Symbiosis Pathway to Colonize *Populus* Roots](#). *The Plant Cell*, 31(10), 2386–2410.
15. Li, W, L Zhai, SH Strauss, H Yer, E Merewitz, J Chen, X Wang, W Zhuang, C Fang, Y Chen, R McAvoy, Z Han and Y Li. 2019. [Transgenic reduction of cytokinin levels in roots inhibits root-sprouting in *Populus*](#). *Plant Physiology*. 180(4), 1788–1792.
16. Lu H, AL Klocko, AM Brunner, C Ma, A Magnuson, G Howe, X An, and SH Strauss. 2018. [RNAi suppression of *AGAMOUS* and *SEEDSTICK* alters floral organ identity and impairs floral organ determinacy, ovule differentiation, and seed-hair development in *Populus*](#). *New Phytologist*.
17. Elorriaga E, Klocko AL, Ma C, Strauss SH. 2018. [Variation in mutation spectra among CRISPR/Cas9 mutagenized poplars](#). *Frontiers in Plant Science*.
18. Klocko A, Lu H, Magnuson A, Brunner AM, Ma C, Strauss SH. 2018. [Phenotypic Expression and Stability in a Large-Scale Field Study of Genetically Engineered Poplars Containing Sexual Containment Transgenes](#). *Frontiers in Bioengineering & Biotechnology*

19. Buhl C, R Lindroth, SH Strauss. 2018. [Genetic down-regulation of gibberellin results in semi-dwarf poplar but few non-target effects on chemical resistance and tolerance to defoliation](https://doi.org/10.1093/jpe/rty003). *Journal of Plant Ecology* (<https://doi.org/10.1093/jpe/rty003>)
20. Klocko, A, A Brunner, J Huang , R Meilan, H Lu , C Ma , A Morel, D Zhao , K Ault , M Dow, G Howe, and O Shevchenko. 2016. [Containment of transgenic trees by suppression of LEAFY](#). *Nature Biotechnology* 34:918–922.
21. Klocko, A, E Borejsza-Wysocka, A Brunner, O Shevchenko, H Aldwinckle, and SH Strauss. 2016. [Transgenic suppression of AGAMOUS genes in apple reduces fertility and increases floral attractiveness](#). *PLOS One* 11(8): e0159421. doi:10.1371/journal.pone.0159421
22. Lu H, Klocko A, Dow M, Ma C, Amarasinghe V, Strauss SH. 2016. [Low frequency of zinc-finger nuclease-induced mutagenesis in Populus](#). *Molecular Breeding*. 36:1-13.
23. Ault, K, V Viswanath, J Jayawickrama, C Ma, J E, R Meilan, G Beauchamp, W Hohenschuh, G Murthy, and SH Strauss. 2016. [Improved growth and weed control of glyphosate-tolerant poplars](#). *New Forests* 47:653–667.
24. Lu, H, V Viswanath, C Ma, E Etherington, P Dharmawardhana, O Shevchenko, SH Strauss. 2015. [Recombinant DNA modification of gibberellin metabolism alters growth rate and biomass allocation in Populus](#). *Tree Genetics & Genomes* 11:127. DOI 10.1007/s11295-015-0952-0
25. Howe GT, Horvath DP, Dharmawardhana P, Priest HD, Mockler TC and Strauss SH (2015) [Extensive Transcriptome Changes During Natural Onset and Release of Vegetative Bud Dormancy in Populus](#). *Front. Plant Sci.* 6:989. doi: 10.3389/fpls.2015.00989
26. Buhl, C. S.H. Strauss, R.L. Lindroth. 2015. [Down-regulation of gibberellic acid in poplar has negligible effects on host-plant suitability and insect pest response](#). *Arthropod-Plant Interactions* 9:85–95.
27. Klocko, A.L., Ma, C., Robertson, S., Esfandiari, E., Nilsson, O., and Strauss, S.H. (2015). [FT overexpression induces precocious flowering and normal reproductive development in Eucalyptus](#). *Plant Biotechnology Journal*, doi: 10.1111/pbi.12431
28. Elorriaga, E., R Meilan, C. Ma, J.S. Skinner, E. Etherington, A. Brunner, and S.H. Strauss. 2014. [A tapetal ablation transgene induces stable male-sterility and slows field growth in Populus](#). *Tree Genet. Genomes* 10:1583–1593.
29. Vining, K., E. Romanel; R. Jones, A. Klocko, M. Alves-Ferreira, C. Hefer, V. Amarasinghe, P. Dharmawardhana, S. Naithani, M. Ranik, J. Wesley-Smith, P. Jaiswal, A. Myburg, L. Solomon, S.H. Strauss. 2014. [The floral transcriptome of Eucalyptus grandis](#). *New Phytologist*. doi: 10.1111/nph.13077
30. Yordanov, Y.S., C. Ma, S.H. Strauss and V.B. Busov. 2014. [EARLY BUD-BREAK 1 \(EBB1\) is a regulator of release from seasonal dormancy in poplar trees](#). *Proc. Natl. Acad. Sci. USA* 111:10,001–10,006. doi: 10.1073/pnas.1405621111
31. Myburg, Z., ...S.H. Strauss...(total 79 authors). [The genome of Eucalyptus grandis - a global tree for fiber and energy](#). *Nature*. 510:356-362.
32. Klocko, A., R. Meilan, R.R. James, V. Viswanath, C. Ma, P. Payne, L. Miller, J.S. Skinner, B. Oppert, G.A. Cardineau, and S.H. Strauss 2014. [Cry3Aa transgene expression reduces insect damage and improves growth in field-grown hybrid poplar](#). *Can. J. For. Res.* 44: 28–35.

33. Chen, Y, YS Yordanov, C Ma, SH Strauss, VB Busov. 2013. [DR5 as a reporter system to study auxin response in Populus](#). *Plant Cell Rep* 32:453–463.
34. Vining KJ, Pomraning KR, Wilhelm LJ, Ma C, Pellegrini M, Di Y, Mockler TC, Freitag M, Strauss S. 2013. [Methylome reorganization during in vitro dedifferentiation and regeneration of Populus trichocarpa](#). *BMC Plant Biology*. 13(92) doi: 10.1186/1471-2229-13-92.
35. Zhu, R., O. Shevchenko, C. Ma, S. Maury, M. Freitag, and S.H. Strauss. 2013. [Poplars with a PtDDM1-RNAi transgene have reduced DNA methylation and show aberrant post-dormancy morphology](#). *Planta* 237:1483-1493. doi: 10.1007/s00425-013-1858-4
36. Elias, Ani A., Victor B. Busov, Kevin R. Kosola, Cathleen Ma, Elizabeth Etherington, Olga Shevchenko, Harish Gandhi, David W. Pearce, Stewart B. Rood, and Steven H. Strauss. 2012. [Green revolution trees: Semi-dwarfism transgenes modify gibberellins, promote root growth, enhance morphological diversity, and reduce competitiveness in Populus](#). *Plant Physiol*. 160:1130–1144.
37. Zawaski, C., C. Ma, S.H. Strauss, D. French, R. Meilan; and V.B. Busov. 2012. [PHOTOPERIOD RESPONSE 1 \(PHOR1\)-like genes regulate shoot/root growth, starch accumulation, and wood formation in Populus](#). *J. Exp. Botany*.
38. Slavov G.T., DiFazio S.P., Martin J., Schackwitz W., Muchero W., Rodgers-Melnick E., Lipphardt M.F., Pennacchio C.P., Hellsten U., Pennacchio L.A., Gunter L.E., Ranjan P., Vining K., Pomraning K.R., Wilhelm L.J., Pellegrini M., Mockler T.C., Freitag M., Gerald A., El Kassaby Y.A., Mansfield S.D., Cronk Q.C.B., Douglas C.J., Strauss S.H., Rokhsar D., Tuskan G.A. 2012. [Genome resequencing reveals multiscale geographic structure and extensive linkage disequilibrium in the forest tree Populus trichocarpa](#). *New Phytologist* 196:713-725.
39. Vining, K.J., K.R. Pomraning, L.J. Wilhelm, H.D. Priest, M. Pellegrini, T.C. Mockler, M. Freitag and S.H. Strauss. 2012. Dynamic DNA cytosine methylation in the Populus trichocarpa genome: tissue-level variation and relationship to gene expression. *BMC Genomics* 2012, 13:27. <http://www.biomedcentral.com/1471-2164/13/27>
40. Rodgers-Melnick, E., Mane, S.P., Dharmawardhana, P., Slavov, G.T., Crasta, O.R., Strauss, S.H., Brunner, A.M., and S.P. DiFazio. 2012. [Contrasting patterns of evolution following whole genome versus tandem duplication events in Populus](#). *Genome Research* 22:95–105. [Supplemental figures](#) | [Supplemental tables](#)
41. DiFazio, S.P., Leonardi, S., Slavov, G.T., Garman, S.L., Adams, W.T., and S.H. Strauss. 2012. [Gene flow and simulation of transgene dispersal from hybrid poplar plantations](#). *New Phytologist* 193:903-915. [Supplemental materials](#)
42. Zawaski, C., Kadmiel, M., Pickens, J., Ma, C., Strauss, S., and V. Busov. 2011. [Repression of gibberellin biosynthesis or signaling produces striking alterations in poplar growth, morphology, and flowering](#). *Planta* 234:1285–1298.
43. Hsu, C-Y, Adams, J.P., Kim, H., No, K., Ma, C., Strauss, S.H., Drnevich, J., Vandervelde, L., Ellis, J.D., Rice, B.M., Wickett, N., Gunter, L.E., Tuskan, G.A., Brunner, A.M., Page, G.P., Barakat, A., Carlson, J.E., dePamphilis, C.W., Luthe, D.S., and C. Yuceer. 2011. [FLOWERING LOCUS T duplication coordinates reproductive and vegetative growth in perennial poplar](#). *Proc. Natl. Acad. Sci. USA* 108(26): 10756-10761

44. Zawaski C., Kadmiel M., Ma C., Gai Y., Jiang X., Strauss S.H., and Busov V.B. 2011. [SHORT INTERNODES-like genes regulate shoot growth and xylem proliferation in Populus](#). *New Phytologist* 191: 678–691.
45. Dalton, D.A, C. Ma, S. Shrestha, P. Kitin and S.H. Strauss. 2011. [Tradeoffs between biomass growth and inducible biosynthesis of polyhydroxybutyrate in transgenic poplar](#). *Plant Biotech. J.* 2011:1-9.
46. Voelker, S.L., Lachenbruch, B., Meinzer, F.C., Kitin, P. and S.H. Strauss. 2011. [Transgenic poplars with reduced lignin show impaired xylem conductivity, growth efficiency and survival](#). *Plant, Cell & Environment*, DOI: 10.1111/j.1365-3040.2010.02270.x
47. Voelker, S.L., B. Lachenbruch, F.C. Meinzer, and S.H. Strauss. 2011. [Reduced wood stiffness and strength, and altered stem form, in young antisense 4CL transgenic poplars with reduced lignin contents](#). *New Phytologist*, 189(4): 1096-1109
48. Han, K.M., P. Dharmawardhana, R.S. Arias, C. Ma, V. Busov and S.H. Strauss. 2011. [Gibberellin-associated cisgenes modify growth, stature, and wood properties in Populus](#). *Plant Biotechnol. J.* 9:162-78.
49. Busov, V., Y. Yordanov, J. Gou, R. Meilan, C. Ma, S. Regan, and S.H. Strauss. 2010. [Activation tagging is an effective gene tagging system in Populus](#). *Tree Genetics & Genomes*, DOI 10.1007/s11295-010-0317-7
50. Voelker, S.L., B. Lachenbruch, F.C. Meinzer, M. Jourdes, C. Ki, A.M. Patten, L.B. Davin, N.G. Lewis, G.A. Tuskan, L. Gunter, S.R. Decker, M.J. Selig, P. Kitin and S.H. Strauss. 2010. [Antisense down-regulation of 4CL expression alters lignification, tree growth and saccharification potential of field-grown poplar](#). *Plant Physiology* 154: 874-886.
51. Kitin, P., S.L. Voelker, F.C. Meinzer, H. Beeckman, S.H. Strauss and B. Lachenbruch. 2010. [Tyloses and phenolic deposits in xylem vessels impede water transport in low-lignin transgenic poplars: a study by cryo-fluorescence microscopy](#). *Plant Physiology* 154: 887-898.
52. Slavov G.T., Leonardi S., Adams W.T., Strauss S.H., DiFazio S.P. 2010. [Population substructure in continuous and fragmented stands of Populus trichocarpa](#). *Heredity* 105:348–357.
53. Mohamed, R., Wang, C.-T., Ma, C., Shevchenko, O., Dye, S.J., Puzey, J.R., Etherington, E., Sheng, x., Meilan, R., Strauss, S.H. and A.M. Brunner. 2010. [Populus CEN/TFL1 regulates first onset of flowering, axillary meristem identity and dormancy release in Populus](#). *The Plant Journal* 62:674–688.
54. Feng, S., S.J. Cokus, X. Zhang, P.-Y. Chen, M. Bostick, M.G. Goll, J. Hetzel, J. Jain, S.H. Strauss, M.E. Halpern, C. Ukomad, K.C. Sadler, S. Pradhan, M. Pellegrini, and S.E. Jacobsen. 2010. [Conservation and divergence of methylation patterning in plants and animals](#). *Proc. Natl. Acad. Sci. USA* 107:8689-8694.
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24. Chassy, B., C. Carter, M. McGloughlin, A. McHughen, W. Parrot, C. Preston, R. Roush, A. Shelton, and S.H. Strauss. 2003. [UK field trial evaluations answer the wrong questions.](#) *Nature Biotechnol.* 21: 1429-1430.
25. Strauss, S.H., A. Brunner, V. Busov, C. Ma, and E. Jaeger. 2003. Tree Genetic Engineering Research Cooperative Annual Report. Forestry Research Laboratory, Oregon State University, Corvallis, OR. 39 pp.
26. Strauss, S.H. 2003. [Response: Risks of genetically engineered crops.](#) *Science* 301:1846-1847.
27. Strauss, S.H. 2003. [Response: Democratization is more than higher prices.](#) *Science* 301:167.
28. Ronald, P., and S.H. Strauss. 2003. [Moving the debate on genetically engineered crops forward.](#) *American Society of Plant Biologists Newsletter*, May/June, 30(3).
29. Strauss, S.H. 2003. [Regulation of biotechnology as though gene function mattered.](#) *BioScience* 53:453-454.
30. Strauss, S.H., A. Brunner, V. Busov and J. Carson. 2002. Tree Genetic Engineering Research Cooperative Annual Report. Forestry Research Laboratory, Oregon State University, Corvallis, OR. 40 pp.
31. DiFazio, S.P., G.T. Slavov, J. Burczyk, S. Leonardi, and S.H. Strauss. 2004. [Gene flow from tree plantations and implications for transgenic risk assessment.](#) In C. Walter and M. Carson (eds.) *Plantation Forest Biotechnology for the 21st Century.* Research Signpost, Kerala, India, p. 405-422.
32. Brunner, A.M., Goldfarb, B., Busov, V.B., and Strauss, S.H. 2003. [Controlling maturation and flowering for forest tree domestication.](#) In: *Transgenic Plants: Current Innovations and Future Trends.* C.N.Stewart, Jr. (Ed) Horizon Scientific Press Wymondham UK. Pp. 9-44.

33. Strauss, S.H. 2002. [A biological view of field testing: Familiarity and scale provide high levels of environmental safety during field trials of RMS transgenic plants.](#) In Proceedings of Workshop on "Criteria for Field Testing of Plants with Engineered Regulatory, Metabolic and Signaling Pathways," L.L. Wolfenbarger (Ed.), Information Systems for Biotechnology, Virginia Polytechnic and State University, Blacksburg, VA. Pp. 69-73. http://www.isb.vt.edu/isb_publications.cfm.
34. Strauss, S.H. 2002. [Trees, homologs, and poisons.](#) *Science* 296:262 (letter to the editor).
35. Strauss, S.H. 2002. "Eco"terrorism against biotechnology research threatens knowledge and social options. *The Forestry Source* 7(3) March:10.
36. Slavov, G.T., S.P. DiFazio, and S.H. Strauss. 2002. [Gene flow in transgenic trees: From empirical estimates to transgenic risk assessment.](#) In Proceedings of Consequences of Gene Flow, A Scientific Methods Workshop: Ecological and Agronomic Consequences of Gene Flow from Transgenic Crops to Wild Relatives. Ohio State University, Columbus, March 5-6, 2002. Pp. 94-114. <http://www.biosci.ohio-state.edu/~lspencer/Proceedings.pdf>
37. Meilan, R., A. Brunner, J. Skinner, and S.H. Strauss. 2001. [Modification of flowering in transgenic trees.](#) In: Molecular Breeding of Woody Plants. Progress in Biotechnology Series. A. Komamine and N. Morohoshi, editors. Elsevier Science BV, Amsterdam. pp. 247-256.
38. Strauss, S.H., K. Raffa and P. List. 2000. [Ethics and transgenic plantations.](#) *J. Forestry* 98(7):47-48.
39. Strauss, S.H., S. DiFazio, and R. Meilan. 2000. Challenges to commercial uses of transgenic trees in forest plantations: The case of poplars. Pp. 191-195 In Proceedings of the 6th International Symposium on Biosafety of Genetically Modified Organisms, C. Fairbairn, G. Scoles, and A. McHughen, Eds., University of Extension Press, University of Saskatchewan, Saskatoon, Canada.
40. Strauss, S., and R. Meilan. 2000. Tree Genetic Engineering Research Cooperative. *Western Forester* 45(2):14.
41. Meilan, R., Ma, C., Cheng, S., Eaton, J.A., Miller, L.K., Crockett, R.P., DiFazio, S.P., and Strauss, S.H. 2000. [High levels of Roundup® and leaf-beetle resistance in genetically engineered hybrid cottonwoods.](#) In: K.A. Blatner, J.D. Johnson, and D.M. Baumgartner, eds., Hybrid Poplars in the Pacific Northwest: Culture, Commerce and Capability. Washington State University Cooperative Extension Bulletin MISC0272, Pullman, WA. pp. 29-38.

GRANTS – since 2000 (as project director except where indicated)

1. USDA AFRI, Transformation and gene editing in hops, \$291,000, 7/2021-06/2023
2. USDA - Biotechnology Risk Assessment, Site-Specific recombinases for gene editing. \$500,000 (Strauss PI, Goralogia, coPI, 08/2020-07/2023)
3. J. Frank Schmidt Family Charitable Foundation, \$20,000, 9/19 – 9/21 (Goralogia and Strauss), Semi-dwarf, sterile trees through gene editing.

4. Fibria Celulose/Suzano, Induction of male-sterility in Eucalyptus by CRISPR mutation of the hap2 gene. 02/2019-01/2020, \$45,000.
5. USDA - Biotechnology Risk Assessment, CRISPR-Cas gene editing for genetic containment of forest trees. \$500,000 (Strauss PI, Klocko coPI), 08/2016-01/2019
6. National Science Foundation, Plant Genome Research Program. Analysis of genes affecting plant regeneration and transformation in poplar, 01/2017-12/2021, \$4 million
7. J. Frank Schmidt Family Charitable Foundation, \$7,470, 09/14 – 08/15 (Magnuson and Strauss), Collecting Pacific variety aspens for rooting and cultivar development by J. Frank Schmidt
8. J. Frank Schmidt Family Charitable Foundation, Direct alteration of apple flowering genes to reduce invasiveness and increase floral attractiveness., \$10,000, 09/14 – 08/15 (Klocko and Strauss)
9. J. Frank Schmidt Family Charitable Foundation, Suppression of LFY for sterility, \$5,000, 09/14 – 08/15 (Klocko and Strauss)
10. USDA - Biotechnology Risk Assessment, RNAi for genetic containment: Field assessment of sterility and gene suppression in poplar. \$500,000 (Strauss PI, Klocko and Betts coPIs).
11. USDA Feedstock Genomics, Structural polymorphisms as causes of heterosis in Populus, \$1,000,000, 9/ 13 – 8/16.
12. USDA AFRI Bioenergy Centers, Systems for Advanced Biofuels Production from Woody Biomass in the Pacific Northwest, Strauss portion \$550,000, 11/11 – 10-16.
13. USDA - Biotechnology Risk Assessment Research, Genetic containment of plants using zinc-finger nucleases, \$400,000, 09/10 – 08/13 (Strauss PI, Tzfira and Thomson coPIs).
14. J. Frank Schmidt Family Charitable Foundation, Field performance of transgenic Sweetgum trees: Growth, coloration, gene expression, and flowering, \$10,000, 01/11 – 12/11 (Strauss and Martin, PIs).
15. Oregon BEST, Feasibility of biopolymer production in poplar (match funds for SunGrant of same name), \$15,750, 01/10 – 03/12.
16. American Society of Plant Biologists, Informing the public about the science of agricultural biotechnology and environment, \$27,000, 09/09 – 08/11.
17. USDA-ARS, Development of sterile nursery plants, \$143,342, 09/09 – 08/11.
18. Sun Grant, US Dept. Transportation, Feasibility of PHB production in poplar, \$157,000, 8/2009 – 7/ 2011.
19. USDA-DOE, Epigenomics of development in Populus, \$1.2 million, 9/08-8/11.
20. USDA Biotechnology Risk Assessment Grants Program, Accelerated testing of sterility genes in grafted poplar using the FT gene, \$370,000, 9/08 – 8/11.
21. Arborgen, Inducible flowering in poplar using the FT gene (match funds for CPRB grant of same name), \$50,000, 1/08-12/09.
22. Consortium for Plant Biotechnology, Inducible flowering in poplar using the FT gene, \$93,523, 08-09.
23. Resources for the Future/Mellon Foundation, Regulation of Tree Biotechnology: Implications for Research and Commercial Development, \$92,000, 10/07-9/09 .

24. American Society of Plant Biologists Education Foundation, Presenting the Food for Thought Lecture Series via Web-Based Streaming Video, \$10,450, 9/06-8/08 (Strauss and Harry, PIs).
25. Department of Energy, Department of Energy, Poplar genome based research for carbon sequestration in terrestrial ecosystems, \$1,148,452 (OSU portion), 8/05-7/08, Genetic modification of gibberellic acid signaling to promote carbon sequestration in tree roots and stems (Strauss & Busov PIs, Kosola, Dharmawardana, Morrell, Kennedy, Kelley coPIs)
26. Department of Energy, Department of Energy, Poplar genome based research for carbon sequestration in terrestrial ecosystems, \$684,100 (OSU portion), 8/05-7/08, , Genes for enhancing carbon sequestration in poplar (Flavell/Ceres Co. PI, Strauss coPI)
27. Forest Industries, \$125,000, 7/04-6/05, Tree Genomics and Biosafety Research Cooperative (Strauss and Brunner)
28. National Science Foundation Industry/University Cooperative Research Centers, \$30,000, 9/04-8/05, "OSU-Purdue Center for Tree Genetics," (Strauss and Brunner)
29. Arborgen and the Consortium for Plant Biotechnology Research, \$70,632, 3/05-2/07, "Modification of Gibberellin Metabolism to Enhance Productivity, Wood Quality and Biosafety" (Strauss and Busov, joint PIs)
30. Consortium for Plant Biotechnology Research, \$80,000, 9/05-8/07, "Activation tagging in the reference Nisqually-1 poplar genome." (Strauss and Busov, joint PIs)
31. USDA Biotechnology Risk Assessment Research, \$360,000, 9/04-8/08, "Field evaluation of dwarfing genes for biosafety of transgenic woody plants." (Busov & Strauss)
32. USDA Plant Genome, \$430,000, 9/04-8/07, "Efficiency of activation tagging for functional gene discovery in *Populus*." (Busov, Strauss, Ganio & Gartner) (\$229,999 to OSU)
33. USDA Biotechnology Risk Assessment Research, \$358,000, 9/03-8/06, "Field tests of transgene confinement strategies in trees: Evaluation of ablation, gene suppression, and flowering onset genes in poplar." (Strauss & Brunner)
34. USDA-ARS, \$225,000, 9/03-8/06, "Developing Non-Invasive Nursery Crops," (Strauss & Brunner)
35. Department of Energy, Terrestrial Carbon Sequestration using the Poplar Genome, \$1,180,026, 5/03-4/06 "Genome-Enabled Discovery of Carbon Sequestration Genes in *Populus*," (Strauss & Brunner; coPIs on collaborative linked grants are G. Tuskan, Oak Ridge Nat. Lab., and J. Davis, U. Florida: total effort ~\$4.9 million).
36. College of Forestry Innovative Grants Competition, Oregon State University, \$60,000, 11/02-10/05, "Douglas-fir Genomics in Interdisciplinary Research in Forest Science." (Brunner, Howe, Bond, Meilan & Strauss)
37. J. Frank Schmidt Family Charitable Foundation, \$16,000, 10/02-9/04, "Development of fruitless tree varieties via biotechnology." (Strauss, Pellett, Aldwinckle, Meilan & Brunner)
38. National Science Foundation, \$3,430, 5/02-8/03, "Recruitment trip to Thailand for Tree Genetics I/UCRC Center." (Meilan & Strauss)

39. Consortium for Plant Biotechnology, \$70,000, 8/00-7/04, "Genetic engineering to maintain high biomass productivity in non-flowering transgenic trees." (Strauss, Brunner, Meilan & Skinner)
40. Consortium for Plant Biotechnology, \$52,000, 8/02-7/04, "Activation tagging of genes controlling tree development." (Strauss, Brunner & Meilan)
41. DOE, \$50,000 (to OSU), 1/02-12/02, "Accelerated domestication of *Populus*." (Bradshaw, Strauss, Tschaplinski, Wullschlegler, and Tuskan)
42. DOE/Agenda 2020, \$587,893, 10/01-9/04, "Development and validation of sterility systems for trees." (Brunner, Meilan & Strauss)
43. Scottish Forestry Trust Foreign Study Grant, \$9,000, 1/01-4/04, "Risks and benefits of genetically modified trees for industrial plantations." (Strauss)
44. USDA IFAFS, \$539,000, 9/00-8/04, "Flowering control in transgenic trees: Stability and RNAi gene suppression." (Strauss, Meilan, Brunner & DiFazio)

VOLUNTEERED POSTERS & PRESENTATIONS – recent examples can be viewed at [this web site](#)

INVITED PRESENTATIONS -- recent examples can be viewed at [this web site](#))

STUDENTS DIRECTED (MAJOR PROFESSOR)

Current positions given for students where known

Undergraduate

1. Xavier Tacker, 2020-2021, Pollen germination and viability in transgenic eucalypts
2. Anna Brosseau, URSA program, 2020-2021, Fluorescence analysis of meristem promoter expression properties in poplar
3. Sonali Joshi, URSA program, 2020-2021, Cytology of CRISPR-eucalypts
4. Henson Tran, URSA program, 2020-2021, *In planta* transformation methods
5. Jacobsen, Jeremy. 2016-2019. Effects of LFY suppression on vegetative development in field grown poplar. Bioenergy Program thesis.
6. Zahl, Bahiya. 2017-2020. CRISPR for mutagenesis in eucalypts. SURE and URSA research, Biochemistry and Biophysics.
7. Feng, Mu. 2016. Testing the effectiveness of the λ insulator in hybrid poplar. Bachelor's Thesis, BioResources Research. Went on to PhD in Biochemistry.
8. Stepper, S. 2014. Legal and ethical dimensions of biotechnology regulations for the developing world. Honors College Thesis Project, DeLoach Scholarship. Went on to law School.
9. Colby, S. 2014. Analysis of RNA interference as a mean for engineering of floral sterility in trees. SURE Program, College of Science. Went on to medical school.
10. Ree, J. 2011. Improved transformation with the GA20-oxidase and EBB1 gene in transgenic poplar. BioResources Research thesis. Went on to PhD program, Brazil.
11. Charlton, J. 2006. Changes in poplar root:shoot allocation due to dwarfism genes. Undergraduate thesis, Dept of Horticulture, OSU. Status unknown.

12. McDonough, A. 2006. Biological considerations for a new approach to regulating genetically modified crops in the United States. Honors College Thesis. Status unknown.
13. Chapin, C. 1998. The effect of matrix attachment regions flanking gene constructs on transformant gene expression in two poplar clones. BioResources Research and University Honors College Thesis Project. Status unknown.

Master of Science

1. Ryan, Nathan. 2020-2023. GRF-GIF genes for enhancing poplar and eucalypt transformation. Foest Ecosystems and Society.
2. Nahata, Surbhi. 2020. Vegetative effects of CRISPR mutagenesis in eucalypts. Environmental Sciences program.
3. Zhu, Julia. 2013. Effects of transgenic demethylation on poplar development and gene expression. Forest Ecosystems and Society. PhD student in chemical engineering, Brigham Young University.
4. Viswanath, Venkatesh. 2012. Effects of GA transgenes on growth rate, phenology, and cold hardiness of poplar. Forest Ecosystems and Society. Patent Assistant, India.
5. Elias, A. 2009. Growth and morphology of transgenic poplars with transgenes from the Ceres Arabidopsis genomics program. PhD student, Purdue.
6. Han, K. 2009. Evaluation of promoters and genome insertion for modification of gibberellic acid metabolism in poplars. Genetics Program. PhD student, Oregon State University. PhD in engineering, OSU.
7. Bao, Y. 2008. Microarray analysis of RNA expression and meristem reporter gene development during *in vitro* regeneration in poplar. Genetics Program. Laboratory Manager, Cold Spring Harbor Laboratory, NY. MBA/Business Development, China.
8. Wei, H. 2004. Molecular buffering of cytoxin leakage in transgenic sterile poplars. Genetics Program. Postdoctoral researcher, University of Washington.
9. Mohamed, R. 1999. Effect of the *bO* gene on disease resistance in transgenic hybrid cottonwoods. Department of Forest Science. Professor, Agricultural University, Malaysia.
10. Wu, J. 1998. Mitochondrial and nuclear DNA diversity in the California Closed Cone Pines (*Pinus attenuata*, *muricata*, and *radiata*). Researcher, Duke University.
11. Aagard, J. E. 1997. Genetic diversity and differentiation in Douglas-fir from RAPD markers of nuclear and mitochondrial origin. Department of Forest Science. Postdoctoral scientist, University of Washington.
12. Corcoran, J. 1993. Non-thesis Masters. Genetics Program. Lawyer.
13. Bae, H. 1992. RFLP variation in the laminated-root-rot fungal pathogen of conifers, *Phellinus weirii*. Department of Forest Science. Research Scientist, Korea.
14. Dye, S. 2003. Structure and expression of the *Populus* homolog to the *TERMINAL FLOWER* gene. Department of Forest Science. Non-thesis. Mother of large family.
15. Krupkin, A.B. 1992. Chloroplast DNA phylogeny of hard pines (Subgenus *Pinus*): inference from site mutations and multiple small inversions. Department of Forest Science. Research technician, Oregon.
16. Tsai, C.-H. 1989. Dispersed repetitive sequences in the chloroplast genome of Douglas-fir. Department of Forest Science. Professor, Taiwan.

Doctorate

1. Elorriaga, Estefania. 2020. CRISPR for directed mutagenesis of poplar and eucalypt floral genes. Molecular and Cellular Biology Program graduate student.
2. Lu, Haiwei. 2019. Efficiency of zinc finger nucleases for mutagenesis of poplar floral genes. Molecular and Cellular Biology graduate student. Postdoc at Oak Ridge National Laboratory.
3. Nagle, Michael. Expected 2021. HIGS for gene silencing in poplar. Molecular and Cellular Biology Program graduate student.
4. Gordon, Michael. Expected 2021. Host induced gene silencing in poplar. Molecular and Cellular Biology Program graduate student.
5. Li, Jingyi. 2006. Stability of transgene expression and RNAi-induced silencing under vegetative propagation and environmental stress in poplar. Department of Forest Science (Co-advised with A. Brunner). Research Group Leader, Biotechnology Company.
6. Mohamed, Rozi. 2006. Molecular studies of poplar genes related to disease resistance and meristem development. Department of Forest Science (Co-advised with A. Brunner). Professor, Agricultural University, Malaysia
7. Slavov, Gancho. 2007. Development of microsatellite marker for analysis of pollen contamination in Douglas-fir seed orchards. (co-advised with W. Thomas Adams and G. Howe). Department of Forest Science. Research Scientist, Wales Research Institute, Aberystwyth.
8. DiFazio, Stephen. 2002. Analysis and modeling of gene dispersal from plantations of transgenic hybrid cottonwoods. Department of Forest Science. Professor, West Virginia University.
9. Brunner, A. 1998. Isolation of *Populus trichocarpa* homologous to the floral homeotic gene *AGAMOUS*. Department of Forest Science. Professor, Virginia Technological University.
10. Sheppard, L. 1997. *PTD*, a floral homeotic gene from *Populus trichocarpa* with homology to transcription factors. Genetics Program. Technical Editor.
11. Hipkins, V.D. 1993. Repeated sequences associated with inversions and length mutations in the chloroplast genomes of *Pinus* and *Pseudotsuga*. Genetics Program. Research Geneticist, US Forest Service.
12. Hong, Y.-P. 1991. Chloroplast DNA diversity and phylogeny in the Californian closed-cone pines (Subsect. *Oocarpae*). Department of Forest Science. Professor, Korea.
13. Howe, G.T. 1991. Transformation and heterologous gene expression in hybrid poplar. Genetics Program. Professor, Oregon State University.
14. Goldfarb, B. 1990. Parameters affecting genetic transformation of Douglas-fir via microprojectiles. (Co-directed with J. Zaerr.). Professor, North Carolina State University.

POSTDOCTORAL SCIENTISTS ADVISED

Current positions given where known

1. Greg Gorologia, 2019-2022, CRISPR locus excision and off-target mutagenesis.
2. Mewalal, Ritesh. 2018. Reproductive molecular biology in poplar. Postdoctoral researcher, Lawrence Berkeley Lab, DOE.

3. Heliwell, Emily. 2016-17. Genomic sequencing to reveal structural polymorphisms in hybrid cottonwoods. Research scientist, Vancouver, WA.
4. Klocko, Amy. 2012-2016. Floral biotechnology in poplar and eucalypts. Lecturer in Biology, Colorado College.
5. Devisetty, Upendra. 2015-2016. Genomic basis of heterosis in poplar. Bioinformatics scientist, CyVerse, University of Arizona.
6. Dow, Michael, 2011-2012, Outreach in biotechnology web development, cloning of floral sterility genes. Intellectual property law, Australia.
7. Ranik, Martin. 2010-2011. Floral transcriptomics of eucalypts. Biotechnology company researcher, South Africa.
8. Vining, K. 2009-2013. Epigenomics of development in *Populus*. Professor, Oregon State University.
9. Dalton, David (sabbatical from Reed College). 2008-2009. Production of polyhydroxy butyrate in transgenic poplar. Professor, Reed College.
10. An, Xinmin. 2/2007-7/2007. Visiting Scientist from Beijing Forestry University. Genes for floral sterility in poplar. Professor, China.
11. Dharmawardhana, P. September 2005-present. Microarray analysis of poplar gene expression. Research Scientist, Oregon State University.
12. Harry, David. 2006-2007. Outreach in Biotechnology, Associate Director. Research Professor and Genetic Consultant.
13. Arias, Rene. December 2005-June 2007. Genes promoting regeneration of transgenic tissues. Researcher, USDA.
14. Filichkin, Sergei. 2004-2007. Functional genomics tools for transgenic poplars. Research Scientist, Oregon State University.
15. Carroll, Kirstin. 2004-2006. Outreach in Resource Biotechnology Program Coordinator. Lecturer, Oregon State University.
16. Gandi, Sonali. February 2004-April 2005. Genomic approaches to genetic engineering for carbon sequestration in poplar. Researcher, Syngenta.
17. Busov, Victor. 2002-2006. Activation tagging and dwarfism in poplar. Professor, Michigan Technological University.
18. Bao, Manzhu. 10/2002-1/2003. Visiting scientist from Huazhong Agricultural University, China. Genetic engineering of flowering in sweetgum. Professor, China.
19. Yakolev, Igor. 2001-2002. Fullbright Scholar from Russia. Floral gene expression during maturation in poplar. Research Scientist, Norwegian Research Institute.
20. Southerton, Simon. Nov/Dec 2000. Genetic engineering of flowering in eucalypts. Research Scientist, CSIRO, Australia.
21. Brunner, Amy. 1998-2005. Dominant negative mutations of floral homeotic genes for engineering of sterility. Professor, Virginia Technological University.
22. Skinner, Jeffrey. 1997-2001. Recombinant DNA manipulations of poplar floral homeotic genes for induction of floral sterility. Research Scientist, Seed Company.
23. Meilan, Richard. 1995-2003. Genetic engineering of sterility and precocious flowering in poplars. Professor, Purdue.
24. Krutovskii, Konstantin. 1994-2001. Genome mapping and QTL analysis of adaptive traits in Douglas-fir and cottonwood leaf beetle. Professor, Texas A & M.

25. Han, Kyung-Hwan. 1994-1996. Genetic transformation of poplars via *Agrobacterium*. Professor, Michigan State University.
26. James, Rosalind. 1994-1997. Ecological genetics of resistance to BT transgenes in the cottonwood leaf beetle. Research Scientists, USDA ARS.
27. Tsumura, Yoshiko. 1994 (2 months). Visiting Scientist, Japanese Forestry and Forest Products Research Institute, Tsukuba, Japan. Inter-simple-sequence-repeat DNA markers in conifers. Research Scientist, Japan.
28. Yang, Y. 1993-94. *In vitro* propagation and transformation of triploid cottonwoods. Professor, Korea.
29. Rottmann, William. 1990-1995. Structure and expression of the poplar homolog of the floral homeotic gene *LEAFY*. Research Scientist, Arborgen Co.
30. Boes, Teresa. 1990-1992. Development of floral primordia in black cottonwood (*Populus trichocarpa*). Unknown.
31. Bousquet, Jean. 1990-1991. Rates of evolution in the chloroplast gene *rbcl*. Professor, Laval University.