

David Shintani
CIRRICULUM VITAE

DAVID K. SHINTANI
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EDUCATION

1996 PhD Department of Botany and Plant Pathology, Michigan State University
1985 BS Department of Genetics, University of California, Davis

APPOINTMENTS

2012- Associate Dean, College of Agric, Biotech and Nat Resources, Univ. of Nevada,
Reno
2006 - Associate Professor, Department of Biochemistry, Univ. of Nevada, Reno
2007- 2012 Director of the BS/MS Biotechnology Program
2000 – 2006 Assistant Professor, Department of Biochemistry, Univ. of Nevada, Reno
1998 - 2000 Res. Assistant Professor, Department of Biochemistry, Univ. of Nevada, Reno
1996 – 1998 Post-doctoral Associate, Department of Biochemistry, Univ. of Nevada, Reno
1989 - 1996 Graduate Assistant, Department of Botany, Michigan State University
1985 - 1989 Research Associate, Calgene Inc., Davis, CA

AWARDS

2007 University of Nevada Outstanding Undergraduate Research Mentor

GRANTS

12/13 -11/17 NIFA/USDA
Arid Lands Biofuels and Bioproducts
PI: Glenn Miller, Co-PIs: David Shintani; Hongfei Lin, Charles Coronella
\$499,182
7/12 – 7/15 Nevada Agricultural Experiment Station
Engineering Plants for Increased Nutrition and Increased Stress Tolerance
PI: David Shintani
\$102,696
4/12 – 8/13 PanAridus Corp
PanAridus/UNR Extraction Trails
PI: David Shintani; co-PI: Glenn Miller
\$15,618
9/12 - 9/13 USDA ARS Sponsored Cooperative Agreement
Polymer-Protein Interactions in Natural Rubber
PI: David Shintani
\$59,522
11/10-10/12 Nevada Renewable Energy Consortium
Biomass and Biofuel Production from Plants Suited for Nevada's Arid
Environment
PI: David Shintani; co-PI Glenn Miller, Jeff Shen, Stan Smith, Curtis Robbins
\$150,000
7/09 – 6/12 Nevada Agricultural Experiment Station
Biomaterial and Biofuel uses for Chrysothamnus nauseosus (rabbitbrush)

David Shintani

- PI: David Shintani
\$102,080
9/07 – 1/10 SunGrant- DOT-OS/OREGON STATE UNIV
Biofuels from Salt Basin Algae: A Renewable Energy Crop for Carbon Sequestration
PI: John Cushman co-PI: David Shintani
\$97,138.
- 5/08 – 4/09 UNR/Yulex Corp – Applied Research Initiative
Functional analyses of guayule rubber biosynthetic genes.
PI: David Shintani
\$50,000
- 6/05 – 5/08 Nevada Agricultural Experiment Station
Rabbit Brush: A rubber producing crop for Nevada
PI: David Shintani
\$30,000
- 9/03 – 8/07 NSF Plant Genome Research Program
Functional Identification of Plant Rubber Biosynthetic Genes
PI: David Shintani, co-PIs: David Schooley, Martin Gollery, Christie Howard
\$1,990,000 over 4 years
- 6/05 – 5/07 REU Supplement for NSF Plant Genome Research Program
\$36,500 over 1 year
- 6/05 – 5/06 REU Supplement for NSF Plant Genome Research Program
\$93,000 over 1 year
- 6/04 – 5/05 REU Supplement for NSF Plant Genome Research Program
\$80,088 over 1 year
- 4/03-3/06 NSF Metabolic Biochemistry
Thiamin Metabolism in Plants: Elucidation of the 4-methyl-5-betahydroxyethylthiazole phosphate biosynthetic pathway in Arabidopsis.
PI: David Shintani
\$375,000 over 3 years
- 3/03 – 8/03 BRIN: Core Use Incentive Grant
Rubber Proteomics
PI: David Shintani
\$5,670
- 7/01-6/03 Nevada Agricultural Experiment Station
Genomic Studies
PI: Gary Blomquist, co-PI David Shintani
\$63,798
- 9/98-8/01 USDA Plant Genetic Mechanisms
Increasing the Vitamin E (α -tocopherol) content of vegetable oil by manipulating γ -tocopherol methyltransferase levels in transgenic plants
PI: Dean DellaPenna Co-PI: David Shintani
\$25,000

PATENTS

Manipulation of Vitamin E (α -tocopherol) levels in plant tissues.

Inventors: Dean DellaPenna and **David Shintani**

Transgenic plants with tocopherol methyltransferase.

Inventors: Dean DellaPenna and **David Shintani**

Manipulation of the biotin carboxylase subunit of acetyl-CoA carboxylase to increase oil content.

Inventors: John Ohlrogge, Chris Sommerville, Keith Roesler, Basil Shorrosh, **David Shintani**, Linda Savage

PUBLICATIONS

- Gidda, S.K., Watt, S., Collins-Silva, J., Kilaru, A., Arondel, V., Yurchenko, O., Horn, P.J., James, C.N., **Shintani, D.**, Ohlrogge, J.B., Chapman, K.D., Mullen, R.T., Dyer, J.M. (2013) Lipid droplet-associated proteins (LDAPS) are involved in the compartmentalization of lipophilic compounds in plant cells. *Plant Signaling and Behavior* 8:e27141
- Yazdani, M., Zallot, R., Tunc-Ozdemir, M., deCrecy-Lagard, V. **Shintani, D.K.**, Hanson, A.D. (2013) Identification of the thiamin salvage enzyme thiazole kinase in Arabidopsis and maize. *Phytochemistry* 94: 68-73.
- Whalen, M., McMahan, C., **Shintani, D.** (2013) Development of Crops to Produce Industrially Useful Natural Rubber. In Thomas J. Bach and Michel Rohmer (eds.) *Isoprenoid Synthesis in Plants and Microorganisms*, 2012 New Concepts and Experimental Approaches, Springer Science and Business Media, New York 2012. pp. 329-346.
- Ponciano, G., McMahan, C.M., Xie, W., Lazo, G.R., Coffelt, T.A., Collins-Silva, J., Nural-Taban, A., Gollery, M., **Shintani, D.K.**, Whalen, M.C. (2012) Transcriptome and gene expression analysis in cold-acclimated guayule (*Parthenium argentatum*) rubber-producing tissue. *Phytochemistry* 79: 57-66.
- Collins-Silva, J., Tuban-Nural, A., Skaggs, A., Scott, D., Hathwaik, U., Woolsey, R., Schegg, K., McMahan, C., Whalen, M., Cornish, K., **Shintani, D.** (2012) Altered levels of the *Taraxacum kok-saghyz* (Russian dandelion) small rubber particle protein TkSRPP3, results in qualitative and quantitative changes in rubber metabolism. *Phytochemistry* 79: 46-56
- Tunc-Ozdemir, M., Miller, G., Song, L., Kim, J., Sodek, A., Kousssevitzy, S., Misra, A.M., Mittler, R., **Shintani, D.** (2009) Thiamin confers enhanced tolerance to oxidative stress in Arabidopsis. *Plant Physiology* 151(1): 421-432.
- Henry, O., Lopez-Gallego, F., Agger, S.A., Schmidt-Dannert, C., Sen, S., **Shintani, D.**, Cornish, K., Distefano, M. (2009) A versatile photoactivatable probe designed to label the diphosphate binding site of farnesyl diphosphate utilizing enzymes. *Bioorganic and Medicinal Chemistry* 17: 4797-4805.
- Xie, W., McMahan, C.M., DeGraw, A.J., Distefano, M.D., Cornish, K., Whalen, M.C., **Shintani, D.K.** (2008) Initiation of rubber biosynthesis: *In vitro* comparisons of benzophenone-modified diphosphate analogues in three rubber-producing species. *Phytochemistry* 69: 2539-2545.
- Wachter, A., Tunc-Ozdemir, M., Grove, B.C., Green, P.J., **Shintani, D.K.**, Breaker, R.R. (2007) Riboswitch control of gene expression in plants by splicing and alternative 3' end processing of mRNA. *Plant Cell* 19: 3437-3450.
- Kolkman J.M., Berry, S.T., Leon, A.J., Slabaugh, M.B., Tang, S., Gao, W., **Shintani, D.K.**, Burke, J.M., Knapp, S.J. (2007) Single nucleotide polymorphisms and linkage disequilibrium in sunflower. *Genetics* 177(1): 457-468.
- Ajjawi, I., Rodriguez Milla, M.A., Cushman, J.C., **Shintani, D.K.** (2007) Thiamin pyrophosphokinase is required for thiamin cofactor activation in Arabidopsis. *Plant Molecular Biology* 65(1-2): 151-162.
- DeGraw, A.J., Zhao, Z., Strickland, C.L., Taban, A.H., Hsieh, J., Jefferies, M., Xie, **Shintani, D.**, W., McMahan, C., Cornish, K., Distefano, M.D. (2007) A photoactive isoprenoid

- diphosphate analogue containing a stable phosphonate linkage: synthesis and biochemical studies with prenyltransferases. *Journal of Organic Chemistry* 72(13):4587-4595.
- Ajjawi, I., Tsegaye, Y., **Shintani, D** (2007) Characterization of the Arabidopsis Th1 gene and its role in plant thiamin biosynthesis. *Archives of Biochemistry and Biophysics* 459(1):107-114
- Bushman, S.B., Scholte, A.A., Cornish, K., Scott, D.J., Brichta, J.L., Vederas, J.C., Ochoa, O., Micheltore, R.W., **Shintani, D.K.**, Knapp, S.J. (2006) Identification and Comparison of Natural Rubber from Two Lactuca Species. *Phytochemistry* 67 (23) 2590 - 2596
- Cornish, K., McMahon, M., Pearson, C., Ray, D.T., **Shintani, D.K.** (2005) Biotechnological development of domestic rubber producing crops. *Rubber World* 233(2): 40-44.
- Shintani, D.** (2006) Engineering plants for increased nutrition and antioxidant content through the manipulation of the Vitamin E pathway. In: J.K. Setlow ed., *Genetic Engineering, Principles and Methods*. Springer Publishing Volume 27: 231-242.
- Ajjawi I., **Shintani D** (2004) Engineered plants with elevated Vitamin E: a nutraceutical success story. *Trends in Biotechnology* 22(3) 104-107.
- Kishore VK, Velasco P, **Shintani DK**, Rowe J, Rosato C, Adair N, Slabaugh MB, Knapp SJ.(2004) Conserved simple sequence repeats for the Limnanthaceae (Brassicales). *Theoretical and Applied Genetics* 108(3): 104-107
- Branen, J.K., **Shintani, D.** and Engeseth, N.J. (2003) Expression of Antisense Acyl Carrier Protein-4 (LMI-ACP) Reduces Lipid Content in *Arabidopsis* Leaf Tissue. *Plant Physiology* 132(2):748-56.
- Tsegaye, Y., **Shintani, D.K.**, DellaPenna, D. (2002) Overexpression of the enzyme p-hydroxyphenylpyruvate dioxygenase in *Arabidopsis* and its relation to tocopherol biosynthesis. *Plant Physiology and Biochemistry*, 40: 913-920.
- Tang, S.; Yu, J.-K.; Slabaugh, M. B.; **Shintani, D. K.**; Knapp, S. J. (2002) Simple sequence repeat map of the sunflower genome. *Theoretical and Applied Genetics*, 105(8): 1124-1136.
- Shintani DK**, DellaPenna D. (2002) The role of 2-methyl-6-phytylbenzoquinone methyltransferase in determining tocopherol composition in *Synechocystis* sp. PCC6803. *FEBS* 511: 1-5
- Shintani DK**, DellaPenna D (1998) Elevating the vitamin E content of plants through metabolic engineering. *Science* 282: 2098-2100.
- Shintani DK**, Roesler K, Shorrosh BS, Savage L, Ohlrogge JB (1997) Antisense expression and overexpression of biotin carboxylase in tobacco leaves. *Plant Physiology* 114: 881-886
- Wada H, **Shintani DK**, Ohlrogge JB (1997) Why do mitochondria synthesize fatty acids? Evidence for involvement in lipoic acid production. *Proc Natl Acad Sci USA* 94: 1591-1596.
- Roesler K, **Shintani D**, Savage L, Boddupalli S, Ohlrogge J (1997) Targeting of the Arabidopsis homomeric acetyl-Coenzyme A carboxylase to plastids of rapeseeds. *Plant Physiology* 113: 75 – 81
- Roesler K, Savage L, **Shintani DK**, Shorrosh BS, Ohlrogge JB (1996) Co-purification, co-immunoprecipitation, and coordinate expression during oilseed development of acetyl-CoA carboxylase activity, biotin carboxylase protein, and biotin carboxyl carrier protein from higher plants. *Planta* 198:517-525.
- Shintani DK** and Ohlrogge JB (1995) Feedback regulation of fatty acid synthesis in tobacco cell cultures. *The Plant Journal* 7: 577-587
- Shorrosh BS, Roesler K, **Shintani DK**, Van De Loo F, Savage L, Ohlrogge JB (1995) Characterization of the biotin carboxylase subunit of the plastid localized acetyl-CoA carboxylase found in dicots. *Plant Physiology* 108: 805-812.

- Shintani DK** and Ohlrogge JB (1994) Characterization of a mitochondrial acyl carrier protein isoform isolated from *Arabidopsis thaliana*. *Plant Physiology* **104**: 1221-1229.
- Houck CM, **Shintani DK**, Knauf VC (1993) The use of *Agrobacterium* as a gene transfer agent for plants. In KG Mukerji, VP Singh eds, *Frontiers in Applied Microbiology*, vol. 4, Rastogi Publishing Company, pp 1-25.
- Thompson GA, Scherer DE, Foxall-Van Aken S, Kenny JW, Young HL, **Shintani DK**, Kridl JC, Knauf VC (1991) Primary structure of the precursor and mature forms of stearyl-acyl carrier protein desaturase from safflower embryos and requirement of ferredoxin for enzyme activity. *Proc Natl Acad Sci USA* **88**: 2578-2582.

INVITED CONFERENCE TALKS AND SEMINARS

- Shintani, D.**, Hathwaik, U., Miller, G., Robbins, C., McMahan, C. (2012) “*Ericameria nauseosa* (rubber rabbitbrush): a complementary rubber feedstock to augment the guayule rubber production stream. The Meeting of the Association for the Advancement of Industrial Crops, Sonoma, CA November 13-16, 2012
- Shintani, D** (2010) “Summary of U.S. Efforts to Identify Rubber Biosynthetic Genes.” 2010 Meeting : The future of natural Rubber, EU-based Production and Exploitation of Alternative Rubber and Latex Sources, Montpellier, France.
- Shintani, D** (2010) “Protein factors controlling the quality and quantity of rubber produced in plants.” UC Davis, Department of Plant Sciences, Davis, California.
- Shintani, D.** (2009) “Functional Analysis of cis-prenyltransferase and small rubber particle protein in rubber biosynthesis.” TERPNET Meeting, Tokyo, Japan
- Shintani, D.** (2007) “Functional identification of rubber biosynthetic genes” Phytochemical Society of North America Annual Meeting, St. Louis, MO
- Collins, J., Taban, H., **Shintani, D.** (2007) The role of small rubber particle protein in determining rubber yields and polymer length in Russian dandelion. Association for the Advancement of Industrial Crops Annual Meeting, Portland, Maine.
- Collins, J., Taban, H., **Shintani, D.** (2007) The role of small rubber particle protein in determining rubber yields and polymer length in Russian dandelion. 2007 National Plant Lipid Cooperative Meeting, Fallen Leaf Lake, CA
- Shintani, D.** (2006) “Functional identification of rubber biosynthetic genes” Goodyear Tire Company, Akron, OH
- Shintani, D.** (2006) “A functional approach towards the identification of plant rubber biosynthetic genes” 17th International Symposium on Plant Lipids. East Lansing, MI
- Shintani, D.** (2005) “Thiamin Metabolism in *Arabidopsis*” Department of Biology, California State University at Sacramento, Sacramento, CA
- Shintani, D.** (2005) “Thiamin Metabolism in *Arabidopsis*” Department of Biochemistry, University of Missouri, Columbia, MO
- Shintani, D.** (2004) “A Systems base Approach for the Functional Identification of Rubber Biosynthetic Genes,” Department of Plant Biology, U.C. Davis, Davis, CA
- Shintani, D** (2004) “A systems based approach for the identification of rubber biosynthetic genes in the hyper-rubber-producing Composite species *Parthenium argentatum* and *Taraxacum kok-saghyz*.” Plant and Animal Genome XI Conference, San Diego, CA
- Shintani, D.,** Cornish, K.(2003) “A reverse genetic approach to functionally identify plant rubber biosynthetic genes,” National Meeting of the American Chemical Society, New York, NY
- Shintani, D.,** Cornish, K.(2003) “A reverse genetic approach to functionally identify plant rubber biosynthetic genes,” TERPNET Meeting, University of Kentucky, Lexington, KY

- Shintani, D.** (2002) "Engineering Plants for Increased Nutrition," Department of Biology, University of Louisville, Louisville, KY
- Shintani, D.** (2002) "Genomic approaches to study rubber biosynthesis in the desert shrub *Parthenium argentatum* (Guayule)," Nevada Genomics and Integrative Approaches to Abiotic Stress Scientific Conference, Granlibakken, CA
- Shintani, D., DellaPenna, D.** (1999) "Metabolic engineering of plant tissues for increased Vitamin E content." 23rd World Congress and Exhibition of the International Society for Fat Research, Brighton, England.
- Shintani, D., DellaPenna, D.** (1999) "Using a Genomics Based Approach to Engineer Plants for Elevated Vitamin E." Department of Plant Science, Cornell University, Ithaca, NY.
- Shintani, D., DellaPenna, D.** (1999) "Metabolic engineering of plant tissues for altered tocopherol compositions." National Plant Lipid Cooperative Symposium, Lake Tahoe, California.
- Shintani, D., DellaPenna, D.** (1999) "Elevating the Vitamin E content of plants through metabolic engineering" Department of Food Science and Human Nutrition, University of Illinois, Urbana, Illinois.
- Shintani, D., DellaPenna, D.** (1998) "Molecular dissection of the α -tocopherol (Vitamin E) biosynthetic pathway." The 13th International Symposium on Plant Lipids, Seville, Spain.
- Shintani, D., DellaPenna, D.** (1998) "Towards genetic engineering plants for increased Vitamin E content" Department of Biochemistry, University of Nevada, Reno, Nevada.
- Shintani, D., Ohlrogge, J.** (1996) "Alterations of tobacco leaf fatty acid metabolism using antisense-expression and reverse genetic approaches" The 12th International Symposium on Plant Lipids, Toronto, Canada.

ABSTRACTS

- Hathwaik, U., **Shintani, D.** (2007) Screening wild rabbitbrush (*Chrysothamnus nauseosus*) populations for variation in rubber content and quality. Phytochemical Society of North America Annual Meeting, St. Louis, MO July 21 – July 24
- Taban, A.H., **Shintani, D.** (2006) Identification of proteins/genes involved in natural rubber production. Association for Advancement of Industrial Crops Annual Meeting, San Diego, CA, October 14 – 18.
- Hathwaik, U., Durant, K., Villaluz, J.E., Harmon, D., Young, J.A., **Shintani, D.K.** (2006) Screening wild rabbitbrush (*Chrysothamnus nauseosus*) populations for variation in rubber content and quality. Association for Advancement of Industrial Crops Annual Meeting, San Diego, CA, October 14 – 18.
- Collins, J.E., Taban, A.H., **Shintani, D.K.** (2006) A role for the small rubber particle protein during rubber biosynthesis. Association for Advancement of Industrial Crops Annual Meeting, San Diego, CA, October 14 – 18.
- Banks, J., Tunc-Ozdemir, M., Kuo, E., Emmsley, K., **Shintani, D.K.** (2006) Creating an artificial sink to drive thiamin production in plants. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.
- Durant, K., Taban, H., Hathwaik, U., Scott, D., **Shintani, D.** (2006) *Taraxacum kok-saghyz* (Russian Dandelion): A model system for the rapid reverse genetic analyses of candidate rubber biosynthetic genes. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.
- Meeth, K., Ajjawi, I., **Shintani, D.** (2006) De novo synthesis of thiamin pyrophosphate is induced during germination after seed stores of free thiamin are depleted. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.

- Hathwaik, U., Durant, K., Harmon, D., Young, J.A. **Shintani, D.K.** (2006) Screening wild Rabbit Brush (*Chrysothamus nauseous*) populations for variation in rubber content and quality. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.
- Collins, J.E., Taban, H., **Shintani, D.K.** (2006) Evaluation of a stabilizing role for the small rubber particle protein during rubber biosynthesis. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.
- Tunc, M., **Shintani, D.** (2006) Transcriptional and post-transcriptional regulation of a plant thiamin biosynthetic gene, thiC, by cellular demand for thiamin pyrophosphate. Annual Meeting of the American Society of Plant Biologist, Boston, MA, August 5 - 9.
- Tunc-Ozdemir, M., **Shintani, D.** (2005) Regulation of the plant thiC orolog, a thiamin biosynthetic gene, by cellular demands for thiamin pyrophosphate. 5th Symposium on Post-Transcriptional Regulation of Plant Gene Expression. The University of Texas at Austin, June 8-12.
- Taban, A.H., **Shintani, D.** (2005) Identification of plant rubber biosynthetic proteins/genes. Annual Meeting of the American Society of Plant Biologist, Seattle, WA, July 16-20.
- Hathwaik, U., Ajjawi, I., Hernandez, L.T., **Shintani, D.** (2005) Determining if AraThi1 plays a functional role in thiamin biosynthesis in chloroplast and mitochondria of Arabidopsis. Annual Meeting of the American Society of Plant Biologist, Seattle, WA, July 16-20.
- Ajjawi, I., Rodriguez-Milla, M.A., **Shintani, D.** (2005) Thiamin pyrophosphokinase: a critical enzyme to cellular function. Annual Meeting of the American Society of Plant Biologist, Seattle, WA, July 16-20.
- Collins, J.E., Taban, H., Scott, D., **Shintani, D.** (2005) Comparative proteomic analyses of rubber producing plant species. Annual Meeting of the American Society of Plant Biologist, Seattle, WA, July 16-20.
- Ajjawi, I., **Shintani, D.** (2004) Studies into the intra- and inter-cellular transport of thiamin pyrophosphate in plants. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Collins, J., Taban, H., Cox, K., **Shintani, D.** (2004) An immunological approach to indentify rubber biosynthetic proteins. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Cox, K., Ajjawi, I., **Shintani, D.** (2004) Functional indentification of the role of cis-prenyl transferase (CPT) in rubber biosynthesis. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Bozeat, N., Rowe, J., Osborne, C., Gollery, M., **Shintani, D.** (2004) Identification of cis-prenyltransferase in Russian Dandelion. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Taban, A.H., Scott, D., Ajjawi, I., Cox, K., Shintani, D. (2004) Identification of proteins/genes involved in rubber production in Russian Dandelion. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Tunc, M., **Shintani, D.** (2004) Regulation of thiamin biosynthetic genes by cellular demand for thiamin pyrophosphate. Western Section of the American Society of Plant Biologist, University of Nevada, Reno, NV October 22-23.
- Ajjawi, I., **Shintani, D.** (2004) Studies into the intra- and inter-cellular transport of thiamin pyrophosphate in plants. Annual Meeting of the American Society of Plant Biologist, Orlando, FL
- Tunc, M., **Shintani, D.** (2004) Regulation of thiamin biosynthetic genes by cellular demand for thiamin pyrophosphate. Annual Meeting of the American Society of Plant Biologist, Orlando, FL

- Shintani, D.**, Cornish, K. (2004) A systems based approach for the functional identification of plant rubber biosynthetic genes. Annual Meeting of the American Society of Plant Biologist, Orlando, FL
- Cox, K.K., **Shintani, D.** (2003) Proteomic analyses of rubber biosynthetic proteins. Plant Genomics 2003, Western Section of the American Society of Plant Biologist, U.C. Davis, Davis, CA. October 10 -11.
- Ajjawi, I., **Shintani, D.** (2003) A reverse genetic approach to functionally identify plant rubber biosynthetic genes. Plant Genomics 2003, Western Section of the American Society of Plant Biologist, U.C. Davis, Davis, CA. October 10 -11.
- Shintani, D.K.**, Cornish, K., Dickerman, A.W., Knapp, S.J. (2002) Guayule (*Parthenium Argentatum*) ESTs and Rubber Biosynthesis. Annual Meeting of the American Society of Plant Biologist, Denver, CO
- Tsegaye, Y., **Shintani, D.K.** (2002) Biosynthesis of the thiazole moiety of thiamin in plants. Annual Meeting of the American Society of Plant Biologist, Denver, CO
- Tsegaye, Y., **Shintani, D.K.** (2001) Overexpression of the thiamin-phosphate pyrophosphorylase gene in Arabidopsis. Annual Meeting of the American Society of Plant Biologist, Providence, RI
- Ajjawi, I., **Shintani, D.K.** (2001) Functional characterization of two Arabidopsis hydroxymethylpyrimidine kinases in thiamin metabolism. Annual Meeting of the American Society of Plant Biologist, Providence, RI
- Shintani DK**, DellaPenna D (1998) Molecular dissection of the α -tocopherol (Vitamin E) biosynthetic pathway. The 13th International Symposium on Plant Lipids in Seville Spain. July 6, 1998.
- Shintani DK**, DellaPenna D (1998) Identification and characterization of γ -tocopherol methyltransferase genes from *Synechocystis* sp. PCC6803 and *Arabidopsis thaliana*. Annual Meeting of the American Society of Plant Physiologist in Madison, Wisconsin June 27, 1998.
- Shintani DK**, Danforth K, DellaPenna D (1998) Over-expression of the p-hydroxyphenol pyruvic acid dioxygenase gene in Arabidopsis confers resistance to triketone herbicides. 9th International Conference on Arabidopsis Research in Madison, Wisconsin June 24, 1998.
- Shintani DK**, Shorrosh BS, Roesler K, Savage L, Ohlrogge JB (1995) The antisense- and over-expression of the biotin carboxylase subunit of acetyl-CoA carboxylase in tobacco. 1995 Plant Lipid Symposium of the National Plant Lipid Cooperative. June 1-4, 1995 Lake Tahoe, CA
- Shintani DK** and Ohlrogge (1994) Feedback regulation of fatty acid synthesis. The 11th International Symposium of Plant Lipids June 26 - July 1, 1994 Paris, France.
- Shintani DK** and Ohlrogge JB (1993) Feedback regulation of fatty acid synthesis in tobacco cell suspension culture. Plant Physiology supplement 102: 11. Joint Annual Meeting of the American and Canadian Societies of Plant Physiologist. July 31 - August 4 1993 Minneapolis, MN
- Ohlrogge JB, Jaworski J, Post-Beittenmiller D, Cahoon E, **Shintani D** (1993) Control points for fatty acid metabolism. Plant Physiology supplement 102: 1 Joint Annual Meeting of the American and Canadian Societies of Plant Physiologist. July 31 - August 4 1993 Minneapolis, MN
- Shintani DK** and Ohlrogge JB (1993) Characterization of an Arabidopsis mitochondrial acyl carrier protein isoform. 1993 Plant Lipid Symposium of the National Plant Lipid Cooperative. July 29 - 31, 1993 Minneapolis, MN

- Shintani DK** and Ohlrogge JB (1992) The cloning and characterization of a putative mitochondrial acyl carrier protein from *Arabidopsis thaliana*. Plant Physiology supplement 99: 88. Annual Meeting of the American Society of Plant Physiologists. August 1 - 5, 1992 Pittsburgh, PA
- Scherer DE, **Shintani DK**, Knauf VC (1986) Cloning and analysis of cDNA to acyl carrier protein. The 7th International Symposium on Plant Lipids. July 27 - August 1, 1986 Davis, CA

TEACHING EXPERIENCE

Chronological List of Course Taught

Year/Term	Course	Credits	Students	Title
2013/Fall	BCH 407	3	6	Senior Thesis: Service Learning
2013/Fall	BCH 705	3	25	Molecular Genetics
2013/Spring	BIOT 777	3	7	Biotechnology Symposium
2013/Spring	BIOT 495	1	4	Biotechnology Seminar
2012/Fall	BCH 705	3	35	Molecular Genetics
2012/Fall	BIOT 607	4	5	Biotechnology Lab
2011/Spring	BIOT 777	3	9	Biotechnology Symposium
2011/Spring	BIOT 495	1	18	Biotechnology Seminar
2010/Fall	BIOT 607	4	10	Biotechnology Lab
2010/Spring	BIOT 777	3		Biotechnology Symposium
2010/Spring	BIOT 495	1	27	Biotechnology Seminar
2009/Fall	BIOT 607	4	10	Biotechnology Lab
2009/Spring	BIOT 777	3	11	Biotechnology Symposium
2008/Fall	BIOT 607	4	11	Biotechnology Lab
2007/Fall	BIOT 607	4	4	Biotechnology Lab
2007/Spring	BCH400	4	68	Introductory Biochemistry
2007/Spring	BCH 600	4	2	Introductory Biochemistry
2006/Fall	BIOT 607	4	11	Biotechnology Lab
2006/Spring	BCH 794N	1	3	Colloq: Plant Biochemistry
2006/Spring	BCH 400	4	78	Introductory Biochemistry
2006/Spring	BCH 600	4	3	Introductory Biochemistry
2005/Fall	BIOT 607	4	6	Biotechnology Lab
2005/Fall	BCH 794N	1	4	Colloq: Plant Biochemistry
2005/Spring	BCH 400	4	70	Introductory Biochemistry
2005/Spring	BCH 600	4	4	Introductory Biochemistry
2005/Spring	BCH 794N	1	8	Colloq: Plant Biochemistry
2004/Fall	BCH 794N	1	8	Colloq: Plant Biochemistry
2004/Spring	BCH 400	4	42	Introductory Biochemistry
2004/Spring	BCH 600	4	1	Introductory Biochemistry
2004/Spring	BCH 794N	1	8	Colloq: Plant Biochemistry
2003/Spring	BCH 400	4	35	Introductory Biochemistry
2002/Spring	BCH 400	4	82	Introductory Biochemistry
2002/Spring	BCH 600	4	3	Introductory Biochemistry
2000/Fall	BCH 794M	1	2	Colloq: Molecular Genetics

Post-Docs Mentored

- 1) Huma Nural-Taban (2004 – 2007)
- 2) Wei, Wenshuang (2005 – 2007)

3) Debbie Scott (2003 - 2005)

Graduate Students Mentored

- 1) Mohammad Yazdani (2011 – present)
- 2) Upul Hathwaik (2005 – 2013) currently a post-doc at USDA ARS Albany, CA
- 3) Jillian Collins (2004 - 2009) currently a post-doc w/ Edgar Cahoon, University of Nebraska
- 4) Meral Tunc-Ozdemir (2003 - 2007)
- 5) Tatiana Cirico (2006-2007) Invitrogen
- 6) Imad Ajjawi (2001 - 2006) currently Scientist at Synthetic Genomics
- 7) Yoseph Tsegaye (2000 – 2003) currently a Post-Doc with Dr. Teresa Dunn at Uniformed Services University of the Health Sciences, Washington, D.C.

Undergraduate Students Mentored (* = Senior Thesis Student)

- 1) Wendy Tan*- Biochem (2012 – present)
- 2) Huang Vong* – Biochem (2012 – present)
- 3) Silvia Wines* - Biochem (2010 – present)
- 4) Erik Ruelas* - Biochem (2011-present)
- 5) Stephania Cheng* - Biochem (2009-present)
- 6) Regina So – Biochem (2009 – present)
- 7) Laura Colgin – Biotech (2011 – present)
- 8) Justin Lee* - Biochem (2009 – present)
- 9) Casey Lear – iGEM (2011)
- 10) David Kohen – iGEM (2011)
- 11) Ron Truong – iGEM (2011)
- 12) Chris Clifford – iGEM (2011)
- 13) Matt Clifford – iGEM (2011)
- 14) Marguerite Christian – iGEM (2011)
- 15) Jennifer Minor – iGEM (2011)
- 16) Dru Nelson – iGEM (2011)
- 17) Amanda Skaggs – Biotech (2009-2011) Synthetic Genomics
- 18) Sammatha Lee – Biotech (2009-2011) Sierra Sciences
- 19) Tony Moscetti – Biotech (2009-2011) PhD Student UNR
- 20) Jeffery Sanders*- Biochem (2009 -2011) Health Inspector, Maricopa County, AZ
- 21) Travis Garcia*- Biochem (2009 -2011)
- 22) Hong Vong* - Biochem (2009 -2011)
- 23) Ryan Wong* - Biochem (2009-2011)
- 24) Joufika Gesteso*- Biochem (2009-2011)
- 25) Mel Bersaba* - Biochem (2009-2011)
- 26) Jeff Fine* - Biochem (2009-2011)
- 27) Andrea Jydstrup- Biotech (2008 -2010) Instructor at CSN
- 28) Brad Humphery – Biochem (2008 – 2010)
- 29) Mitch Hegedus – Biochem* (2007-2008)
- 30) Thivanka Muthumalage – Biology (2008 – 2009) PhD student Pristo Lab
- 31) Alesha Grant* - Biochem (2008 – 2009)
- 32) Arthur Lewis* - Biochem (2008 – 2009) DRI
- 33) James Kim* – Biochem (2007 – 2008) Pharmacy School, Touro Univ
- 34) Ryan Fernandez* – Biochem (2007-2008)
- 35) Janice Cho – Biochem (2006 – 2009)
- 36) Shaney Ahwah – Biochem (2006 – 2007)

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- 37) Joseph Evan Villaluz – Biochem* (2006 –2008) UNR School of Medicine
- 38) Andrea Stratton* – Biochem (2006 to 2008)
- 39) Nicole Kurnik – Biology (2005-2007) UNR School of Medicine
- 40) Kacey Durant* – Biochem (2005 – 2007) UNR School of Medicine
- 41) Michael Mendez – Biochem (2005 – 2006)
- 42) Jake Banks* - Biochem (2005-2007) Dentist
- 43) Melissa Reaney – Biochem (2005 – 2006) Charles River
- 44) Kathrina Meeth* – Biochem (2005 – 2007) PhD Student Yale
- 45) Khenh Vong – Biochem (2004) Pharmacist
- 46) Scott Strickler* – Biochem (2003 – 2005) Washoe County Health Depart.
- 47) Brent Fleck* - Biochem (2003 – 2005) Research Associate at Oregon State University
- 48) Michael Harrison – Biology/Biotech (2003 -2004) Charles River
- 49) Nathan Bozeat – Biochem (2003 – 04) Pharmacist
- 50) Leyla Hernandez* Biochem (2003 – 2007) now in UNR Biochemistry Graduate Program
- 51) Amy Schneck – Biology (2003-2004) Hamilton Corp
- 52) Lakisha Hawkins - Biology (2002) Physician
- 53) Emily Holland – Biochem (2002) Dentist
- 54) Severin Stevens – Biochem/Biotech (2001 – 2006) PepPro Analytics, Research Manager
- 55) Upul Hathwaik* - Biochem (2001) now Graduate Student in Shintani Lab
- 56) Kristine Cox* - Biochem (2001 – 2004) now Michigan State Univ. Vet School
- 57) Eun Joo Koo* – Biochem (2001) Pharmacist
- 58) Chris Brennan* - Biochem (2001) Pharmacist
- 59) Peter Brown – Biology (2000-2002)
- 60) Erica Rust – Biology (2000) Physician
- 61) Ginger Austin – Biochem (2000)
- 62) Imad Ajjawi* - Biochem (2000) Scientist Synthetic Genomics
- 63) Rubi Figueroa* - Biochem (2000) Post-doc UNR Biochemistry
- 64) Aimee Snell* – Biochem (2000-2001) Dentist

Student Advisement:

- 2012 – present CABNR Associate Dean for Academic Programs
- 2004 – 2012 Assistant Director/Faculty Advisor for the B.S./M.S. Biotechnology Program
- 2000 – present Undergraduate Advisor of Department of Biochemistry and Molecular Biology

SERVICE

Department Committees:

- 2003 - 2012 Department of Biochemistry Personnel Committee
- 2001 - 2006 Department of Biochemistry Curriculum Committee
- 2001 - 2006 Biochemistry Graduate Program Admissions Committee

College Committees:

- 2008 – 2012 CABNR Research Committee
- 2003 - 2007 CABNR Scholarship Committee
- 2000 - 2003 CABNR By-Laws Committee

Interdepartmental Committees:

- 2012 – present UNR Core Curriculum Board

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2012 – present	UNR Graduate Council
2012 – present	UNR Academic Advising Advisory Board
2012 – present	Target 500 UNR Undergraduate Recruiting Board
2011 – 2012	University Promotion and Tenure Committee
2009 – 2009	CMB Executive Committee
2003 - 2005	Molecular Biosciences and Biotech. Graduate Program Bylaws Committee
2003 - 2005	Molecular Biosciences and Biotech. Graduate Program Admissions Committee
2001 - Present	BS/MS Biotechnology Program Admissions Committee

Summary of other assigned institutional duties:

2012 – present	Collegiate FFA Club Advisor
2009 - 2012	Coordinator for Combined Graduate Retreat for CMB, CMPP, and Biochemistry Graduate Programs
2008 - 2009	Chairman of review committee for UNR Office of Undergraduate Research
2004	Department of Biology Cell Biology Faculty Search Committee
2003	COBRE Biochemistry Faculty Search Committee
2002	Plant Abiotic Stress Biochemistry Faculty Search Committee
2001	Department of Biochemistry Chairperson Search Committee
2000	Department of Animal Biotech. Quantitative Geneticist Search Committee
2000	Department of Animal Biotech. Developmental Biologist Search Committee

Professional Service:

Grant Panels:

2011	USDA NIFA AFRI Biology of Agricultural Plants Grant Panel
2010	DOE Genomic Science and technology for Energy and the Environment Panel
2009	NSF/NIH/USDA/DOE Interagency Opportunities in Metabolic Engineering Panel
2008	USDA NRI Plant Biology: Biochemistry Panel
2007	USDA NRI Plant Genome Panel
2006	NSF DBI Plant Genome Research GEPR Panel
2005	NSF/NIH/USDA/DOE Interagency Opportunities in Metabolic Engineering Panel (BES05MEFH)

Ad Hoc Reviewer for Grants: NSF, USDA CSREES-NRICPG, Nevada Agricultural Experiment Station Hatch Grant Program, Kentucky Science and Technology Corporation, Natural Sciences and Engineering Council of Canada, U.S. Civilian Research & Development Foundation

Ad Hoc Reviewer for Research Programs: USDA ARS, Kentucky Tobacco Research and Development Center

Ad Hoc Reviewer for Journals: Plant Physiology, PNAS (USA), Plant Science, Nature Biotechnology, Journal of Experimental Botany, Horticulture Science, Biotechniques, Phytochemistry