Allen E. Van Deynze Director Seed Biotechnology
Associate Director Plant Breeding Center,
University of California, Davis, CA, 95616

Education:

Postdoctorate	1995	Cornell University Molecular Genetics
Ph.D in Agriculture	1993	University of Guelph, Canada Plant Breeding

Work Experience:

2019-Present	Seed Biotechnology Center, UC Davis, Director
2014- Present	Plant Breeding Center, University of California, Davis, CA Associate Director.
2002-Present	Consultant-design and oversee field and molecular analysis of transgenic traits in crops; incorporation of genomics in plant breeding in field and vegetable crops; plant breeding; biotechnology regulations, coexistence in production systems
2002- 2019	Seed Biotechnology Center, University of California, Davis, CA Director of Research.
1999- 2001	Celera AgGen, Davis, CA, USA, 95616, Senior Scientist.
1995-1999	Calgene LLC, Monsanto Co., Davis, CA, USA, 95616, Plant Breeder

Public sector service

Co-founder of UC Davis Plant Breeding Academy(s); Advisor: Triticeae Coordinated Ag project, Cucurbits CAP I&II; Scientific Director, African Orphan Crops Consortium, Associate Editor of Genome and The Plant Genome journals, Guest Associate Editor Genes: Orphan Crops, Past Chair US Plant Breeding Coordinating Committee, Co-Chair, Cucurbiticeae and Breeding for Food safety conference, Advances in Plant Breeding. Committees: American Seed Trade Association, California Seed Association, National Association of Plant Breeders

Teaching and Course Development

Professional courses including UC Davis Plant Breeding Academy (Africa, US, Europe, Asia), African Plant Breeding Academy Crispr, Advanced Plant Breeding, Lectures in Plant Sciences and Breeding

Awards:

2011 U.S. Department of Agriculture (USDA) Secretary's Honor Award-Team award with Solanaceae, Barley and Wheat Coordinated Agricultural Projects.
2012 American Society of Horticulture, best publication with broad impact.
2014 National Association of Plant Breeders Service Award.
2015 Illumina Greater Good Award
2016 National Council of Commercial Plant Breeders Public Breeder Award
2018 International Pepper Conference Lifetime Achievement Award
2019 UC Davis Excellence in Research award

Grants Summary: USDA NIFA, OREI, SCRI, NSF, BARD, AGRA, FFAR, commodity boards and private $50,000-$5M averaging $1,000,000/year.

Research Interest: Molecular genetics, plant breeding theory and application of genomics and biotechnology, Pepper and spinach breeding, Plant breeding education, orphan crops

Societies and Memberships

US Plant Breeding Coordinating Committee –Past Chair; National Association of Plant Breeders; Crop Science Society; California Seed Association; American Seed Trade Association; American Phytopathology Society, ASHS

Recent Publications:

Hill, TA, Cassibba, V., Joukhadar, I., Tonnessen, B. Havlik, C., Ortega, F., Sripolcharoen, S., Visser, B.J., Stoffel, K., Thammapichai, P., Garcia-Llanos, A. Chen, S., Hulse-Kemp, A., Walker, S., and Van Deynze, AE. 2023. Genetics of Destemming in Pepper: a Step Towards Mechanical Harvesting. Frontiers in Genetics: 14,

Lee, J.H., J. Venkatesh, and J. Jo, Jang, S., Kim, G.W., Han, K., Ro, N., Lee, H.Y., Kwon, J.K., Kim, YM., Lee, TH., Choi, D., Van Deynze, A., Hill, TA, Kfir, N., Frieman, A,. Nelson, H., Olivas, D., Elkind, Y., Paran, I., Kang, BC. 2022. High-quality Chromosome-scale Genomes Facilitate Effective Identification of Large Structural Variations in Hot and Sweet Peppers. HortRes: 9

Bredeson, J.V., J.B. Lyons, I.O. Oniyinde, N.R. Okereke, O. Kolade, I. Nnabue, C.O. Nwadili, E. Hřibová, M. Parker, and J. Nwogha. 2022. Chromosome evolution and the genetic basis of agronomically important traits in greater yam. Nature communications 13:1-16.

Chang, J., J.P. Marczuk-Rojas, C. Waterman, A. Garcia-Llanos, S. Chen, X. Ma, A. Hulse-Kemp, A. Van Deynze, Y. Van de Peer, and L. Carretero-Paulet. 2022. Chromosome-scale assembly of the Moringa oleifera Lam. genome uncovers polyploid history and evolution of secondary metabolism pathways through tandem duplication. The Plant Genome 15:e20238.

Ma, X., L.a. Yu, M. Fatima, W.H. Wadlington, A.M. Hulse-Kemp, X. Zhang, S. Zhang, X. Xu, J. Wang, and H. Huang. 2022. The spinach YY genome reveals sex chromosome evolution, domestication, and introgression history of the species. Genome biology 23:1-30.

Rolling, W.R., D. Senalik, M. Iorizzo, S. Ellison, A. Van Deynze, and P.W. Simon. 2022. CarrotOmics: a genetics and comparative genomics database for carrot (Daucus carota). Database 2022.

Clark, K.J., A.G. Anchieta, M.B. da Silva, S.L. Kandel, Y.-J. Choi, F.N. Martin, J.C. Correll, A. Van Deynze', E.C. Brummer, and S.J. Klosterman. 2022. Early detection of the spinach downy mildew pathogen in leaves by recombinase polymerase amplification. Plant Disease:PDIS-11-21-2398-RE.

Fletcher, K., O.-H. Shin, K.J. Clark, C. Feng, A.I. Putman, J.C. Correll, S.J. Klosterman, A. Van Deynze, and R.W. Michelmore. 2022. Ancestral Chromosomes for Family Peronosporaceae Inferred From a Telomere-to-Telomere Genome Assembly of Peronospora effusa. Molecular Plant-Microbe Interactions 35:450-463.

Hale, I., X. Ma, A.T. Melo, F.K. Padi, P.S. Hendre, S.B. Kingan, S.T. Sullivan, S. Chen, J.-M. Boffa, and A. Muchugi. 2021. Genomic resources to guide improvement of the shea tree. Frontiers in plant science:1838.

Hulse-Kemp, A.M., H. Bostan, S. Chen, H. Ashrafi, K. Stoffel, W. Sanseverino, L. Li, S. Cheng, M.C. Schatz, T. Garvin, L.J. du Toit, E. Tseng, J. Chin, M. Iorizzo, and A. Van Deynze. 2021. An anchored chromosome-scale genome assembly of spinach improves annotation and reveals extensive gene rearrangements in euasterids. The Plant Genome 14:e20101.

Ma, X., F.E. Vaistij, Y. Li, W.S. Jansen van Rensburg, S. Harvey, M.W. Bairu, S.L. Venter, S. Mavengahama, Z. Ning, I.A. Graham, A. Van Deynze, Y. Van de Peer, and K.J. Denby. 2021. A chromosome-level Amaranthus cruentus genome assembly highlights gene family evolution

and biosynthetic gene clusters that may underpin the nutritional value of this traditional crop. The Plant Journal 107:613-628.
Wang X, Chen S, Ma X, Yssel AEJ, Chaluvadi SR, Johnson MS, Gangashetty P, Hamidou F, Sanogo MD, Zwaenepoel A, Wallace J, Van de Peer Y, Bennetzen JL, Van Deynze A: Genome sequence and genetic diversity analysis of an under-domesticated orphan crop, white fonio (Digitaria exilis). GigaScience 2021, 10(3),https://doi.org/10.1093/gigascience/giab013.
Farcuh M, Copes B, Le-Navenec G, Marroquin J, Cantu D, Bradford KJ, et al. Sensory, physicochemical and volatile compound analysis of short and long shelf-life melon (Cucumis melo L.) genotypes at harvest and after postharvest storage. Food Chem X. 2020;8:11. doi:10.1016/j.fochx.2020.100107.
Akohoue, F., E.G. Achigan-Dako, C. Sneller, A. Van Deynze, and J. Sibiya. 2020. Genetic diversity, SNP-trait associations and genomic selection accuracy in a west African collection of Kersting's groundnut [Macrotyloma geocarpum (Harms) Maréchal & Baudet]. Plos one 15:e0234769.
Farcuh, M., B. Copes, G. Le-Navenec, J. Marroquin, T. Jaunet, C. Chi-Ham, D. Cantu, K.J. Bradford, and A. Van Deynze. 2020. Texture diversity in melon (Cucumis melo L.): Sensory and physical assessments. Postharvest Biology and Technology 159:111024.
Sahu, S.K.; Liu, M.; Yssel, A.; Kariba, R.; Muthemba, S.; Jiang, S.; Song, B.; Hendre, P.S.; Muchugi, A.; Jamnadass, R.; Kao, S.-M.; Featherston, J.; Zerega, N.J.C.; Xu, X.; Yang, H.; Van Deynze, A.; de Peer, Y.V.; Liu, X.; Liu, H. Draft Genomes of Two *Artocarpus* Plants, Jackfruit (*A. heterophyllus*) and Breadfruit (*A. altilis*). *Genes* 2020, *11*, 27.
Kandel, S.L., A.M. Hulse-Kemp, K. Stoffel, S.T. Koike, A. Shi, B. Mou, A. Van Deynze, and S.J. Klosterman. 2020. Transcriptional analyses of differential cultivars during resistant and susceptible interactions with Peronospora effusa, the causal agent of spinach downy mildew. Scientific Reports 10:6719.
Melotto, M., M.T. Brandl, C. Jacob, M.T. Jay-Russell, S.A. Micallef, M.L. Warburton, and A. Van Deynze. 2020. Breeding crops for enhanced food safety. Frontiers in plant science 11:428.
Jamnadass, R., R.H. Mumm, I. Hale, P. Hendre, A. Muchugi, I.K. Dawson, W. Powell, L. Graudal, H. Yana-Shapiro, and A.J. Simons. 2020. Enhancing African orphan crops with genomics. Nature Genetics 52:356-360.
Hayes, M., M. Pottorff, C. Kay, A. Van Deynze, J. Osorio-Marin, M.A. Lila, et al. 2020. In Vitro Bioaccessibility of Carotenoids and Chlorophylls in a Diverse Collection of Spinach Accessions and Commercial Cultivars. J Agr Food Chem. doi:10.1021/acs.jafc.0c00158.
Borovsky, Y., N. Monsonego, V. Mohan, S. Shabtai, I. Kamara, A. Faigenboim, T. Hill, S. Chen, K. Stoffel, and A. Van Deynze. 2019. The zinc-finger transcription factor Cc LOL 1 controls chloroplast development and immature pepper fruit color in Capsicum chinense and its function is conserved in tomato. The Plant Journal 99:41-55.
Chang, Y., H. Liu, M. Liu, X.Z. Liao, S.K. Sahu, Y. Fu, B. Song, S.F. Cheng, R. Kariba, S. Muthemba, P.S. Hendre, S. Mayes, W.K. Ho, A.E.J. Yssel, P. Kendabie, S.B. Wang, L.Z. Li, A. Muchugi, R. Jamnadass, H.R. Lu, S.F. Peng, A. Van Deynze, A. Simons, H. Yana-Shapiro, Y. Van de Peer, X. Xu, H.M. Yang, J. Wang, and X. Liu. 2019. The draft genomes of five agriculturally important African orphan crops. Gigascience 8.
Chunthawodtiporn, J., T. Hill, K. Stoffel, and A. Van Deynze. 2019. Genetic Analysis of Resistance to Multiple Isolates of Phytophthora capsici and Linkage to Horticultural Traits in Bell Pepper. HortScience 54:1143-1148.

Gonda, I., H. Ashrafi, D.A. Lyon, S.R. Strickler, A.M. Hulse-Kemp, Q.Y. Ma, H.H. Sun, K. Stoffel, A.F. Powell, S. Futrell, T.W. Thannhauser, Z.J. Fei, A.E. Van Deynze, L.A. Mueller, J.J. Giovannoni, and M.R. Foolad. 2019. Sequencing-Based Bin Map Construction of a Tomato Mapping Population, Facilitating High-Resolution Quantitative Trait Loci Detection. Plant Genome 12:1-14.

Hendre, P.S., S. Muthemba, R. Kariba, A. Muchugi, Y. Fu, Y. Chang, B. Song, H. Liu, M. Liu, X. Liao, S.K. Sahu, S. Wang, L. Li, H. Lu, S. Peng, S. Cheng, X. Xu, H. Yang, J. Wang, X. Liu, A. Simons, H.Y. Shapiro, R.H. Mumm, A. Van Deynze, and R. Jamnadass. 2019. African Orphan Crops Consortium (AOCC): status of developing genomic resources for African orphan crops. Planta 250:989-1003.

Iorizzo, M., A. Macko-Podgórni, D. Senalik, A. Van Deynze, and P.W. Simon. 2019. The Carrot Nuclear Genome and Comparative Analysis, p. 187-204 The Carrot Genome. Springer.

Lukman, R., A. Afifuddin, A. Van Deynze, T. Hill, and R. Jimenez. 2019. A survey of mixed Begomovirus infection in solanaceae and fabaceae at different altitudes in East Java, Indonesia. Archives of Phytopathology and Plant Protection 52:385-406.

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Song, B., Y. Song, Y. Fu, E.B. Kizito, S.N. Kamenya, P.N. Kabod, H. Liu, S. Muthemba, R. Kariba, J. Njuguna, S. Maina, F. Stomeo, A. Djikeng, P.S. Hendre, X.L. Chen, W.B. Chen, X.L. Li, W.J. Sun, S.B. Wang, S.F. Cheng, A. Muchugi, R. Jamnadass, H.Y. Shapiro, A. Van Deynze, H.M. Yang, J. Wang, X. Xu, D.A. Odeny, and X. Liu. 2019. Draft genome sequence of Solanum aethiopicum provides insights into disease resistance, drought tolerance, and the evolution of the genome. Gigascience 8.