

Anna M. Davidson, PhD

Artist and Scientist

Cornell University

Department of Natural Resources and the Environment

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EDUCATION

MFA, Art Studio, Department of Art, University of California, Davis, Davis, CA, 2016

PhD, Department of Plant Sciences, University of California Davis, Davis, CA, 2014

BA, Biology, Ripon College, Ripon, Wisconsin, 2006

Art Studio, Massachusetts College of Art and Design Boston, MA. Hellenic International Studies in the Arts, Paros, Greece, 2005

PROFESSIONAL APPOINTMENTS

Senior Research Associate & Lecturer, Department of Natural Resources the Environment, Cornell University, 2021-Present

Adjunct Professor, Department of Art, Sierra Nevada University, 2020-2021

Postdoctoral Researcher, Department of Plant Sciences, University of California Davis, 2016-2021

Co-founder of the Carbohydrate Observatory, Department of Plant Sciences, University of California Davis, 2016-2021

Adjunct Professor, Department of Art, California State University, Sacramento, 2017-2020

Adjunct Professor, Department of Art, San Francisco Art Institute, 2017

SELECTED EXHIBITIONS

The Lost City, Work by Anna Davidson. University of South Carolina, *Upcoming*-Spring 2023

Coordinates: Ice Pac, Sacramento, CA, 2022

The Lost City, Work by Anna Davidson. University of Utah, Salt Lake City, UT, 2022

Tropical Lab Alumni Show Online Exhibition. La Salle College of the Arts, Singapore, 2020

The Performer, Loosenart Gallery, Magazine & Millepiani Exhibition Space, Rome, Italy, 2020

Exquisite Corpse: Art in the time of the virus. Online Exhibition, 2020

Art in isolation. Santa Clarita Arts. Virtual Gallery, Santa Clarita, CA, 2020

Corona Portrait. Online Exhibition. www.cornoaaportrait.com, 2020

Arctic Makes: Observations, Lessons and Solutions from the Geographic Periphery. Arctic Design School, Urals State University of Architecture and Art, Ekaterinburg, Russia. 2020

Arctic Circle. Tremaine Art Gallery, Lakeville, CT, 2020 (*postponed due to Covid 19*)

Au-delà du Nord (Beyond North) Galerie d'art Louise-et-Reuben-Cohen Université de Moncton, New Brunswick, Canada, 2019

The Arctic: Documenting Nature, Sidespace Gallery, Salamanca Arts Centre, Hobart, Tasmania, Australia, 2019

Shine, The Flamingo House, Sacramento, CA, 2019

Tiny Little Life Boats, The Wurks Gallery. Providence, RI, 2018

Science Inspires Art: OCEAN New York Hall of Science, New York, NY, 2017

Djerassi Resident Artists Program-Open House, Woodside, CA, 2017

81 Degrees North, Galleri Metropol, Tallinn, Estonia, 2016

Pole Saw, Pyramiden, Svalbard, Norway, 2016

Having Happened, Verge Center for the Arts, Sacramento, CA, 2016

Cocktail Party Effect, Embark Gallery, San Francisco, CA, 2016

Third Space Art Collective Group Show, Davis, CA, 2016

Consilience, Art/Science, The Pence Gallery, Davis, CA, 2015

Mental Throes, Third Space Art Collective, Davis, CA, 2015

Tropical Lab, La Sale College of the Arts, Singapore, 2015

Subject to Change, Beatnik Studios, Sacramento, CA, 2015

White Line Fever, Third Space Art Collective, Davis, CA 2015

Third Space Art Collective Group Show Davis, CA, 2014

Organism, Art exhibit fusing Art, Science & Technology. Old Nelson Gallery. Davis, CA, 2013

Cabinets of Curiosities, Art Science Fusion Final Student Exhibition. Davis, CA, 2011

Consilience, Art/Science, The Pence Gallery. Davis, CA, 2010

The Grotesque, Newandart Gallery. Ashland, Oregon, 2006

Final Exhibition, Hellenic International Studies in the Arts. Paros, Greece, 2005

PERMANENT COLLECTIONS

Nevada Museum of Art, Center for Art and Environment Archive, Procured 2022. <https://www.nevadaart.org/art/the-center/>

ARTIST RESIDENCIES

Artist in Residence, National Academy of Sciences / Keck Futures Initiative funded Art/Science Ocean Memory Project, University of Southern California, Wrigley Marine Science Center, Catalina Island, CA, USA 2019

Artist at Sea, Expedition to the Lost City hydrothermal vent system on the ocean research vessel, the Atlantis (Woods Hole Oceanographic Institute), Funded by National Science Foundation, 2018

Artist in Residence, Djerassi & Ocean Memory Project – funded by National Academy of Sciences / Keck Futures Initiative, Woodside, CA, USA 2018

Artist in Residence, Djerassi, Scientific Delirium Madness 4.0. Woodside, CA USA 2017

Artist in Residence, National Academy of Sciences / Keck Futures Initiative funded Art/Science Ocean Memory Project, Friday Harbor Marine Laboratories, University of Washington WA, USA 2017

Artist in Residence, Arctic Circle Residency Program, Svalbard, Norway, 2016

Artist in Residence, Tropical Lab, La Salle College of the Arts, Singapore, 2015

Apprentice, Red Oak Glass Blowing, Central Point, OR, USA 2007

PUBLICATIONS

Art:

Davidson, A.M. (*in prep*) Tree Meditations: Art and Science in Northern Alaska during the Summer Solstice.

Davidson, A.M. (*in prep*) An Artist Drifting at the Mid-Atlantic Ridge: Ocean Memory and the Lost City.

Davidson, A.M. (2018) 81 Degrees North. *Leonardo*. 51:3 doi: 10.1162/LEON_a_01612

Davidson, A. (2013). Transcending the Disciplines, Teaching for the UC Davis Art Science Fusion Program. *Future Nature Future Culture(s)*. Balance Unbalance Conference Proceedings pp. 91-97

Artwork Featured in Publication:

Performer, Loosenart Magazine, 2020 www.loosenart.com

Human, Murze Magazine. 2020. Issue 12 Murze.org

Science:

Zwieniecki, M. A., Orozco, J., Davidson, A.M. Cooper, K., Guzman Delgado, P. (*accepted*) Is more better? The impact of non-structural carbohydrates (NSC) concentration on yield in *Prunus dulcis*, *Pistacia vera*, and *Juglans Regia*. *Scientific Reports*

Davidson, A.M., Cooper, K., Le, S., Lange, E. Zwieniecki, M.A. (2021). No time to rest – seasonal dynamics of non-structural carbohydrates in twigs of three Mediterranean tree species suggest year-round activity. *Scientific Reports*, 11, 5181 <https://doi.org/10.1038/s41598-021-83935-1>

Sperling, O., Kamai, Tixier, A., Davidson, A., Jarvis-Shean, K., Raveh, E., DeJong, T., Zwieniecki, M. (2019) Predicting bloom dates by temperature mediated kinetics of carbohydrate metabolism in deciduous trees. *Agriculture and Forest Meteorology*, 276-277

Davidson, A.M., Da Silva, DeJong, T.M. (2019). Rate of Shoot development (phyllochron is dependent on carbon availability, shoot type, and rank in peach trees. *Trees, Structure and function*. P.1-8 DOI: 10.1007/s00468-019-01881-y

Davidson, A.M., Da Silva, D., DeJong, T.M. (2017) The phyllochron of well-watered and water-deficit of mature peach trees varies with shoot type and vigor. *Annals of Botany, Plants*, 9(5): plx042 <http://doi:10.1093/aobpla/plx042>.

Davidson, A.M., Da Silva, D., Saa, S., DeJong, T.M. (2016) Elevated CO₂ increased photosynthesis and carbohydrate status, but did not affect the phyllochron or incremental shoot growth in young peach (*Prunus persica*) trees. *Horticulture, Environment and Biotechnology*, 57:364, pp. 364-370

Davidson, A.M., Da Silva, D., Quintano, B., DeJong, T.M. (2015). The phyllochron of *Prunus persica* shoots is relatively constant under controlled growth conditions but seasonally increases in the field in ways unrelated to patterns of temperature or radiation. *Scientia Horticulturae*, 184, 106-113

Davidson, A., Keller, F., & Turgeon, R. (2011). Phloem loading, plant growth form, and climate. *Protoplasma*, 248(1), 153- 163

Non-Peer Reviewed & Extension:

Davidson, A and Maciej Zwieniecki (2020) Seasonal Trends of Carbohydrates in Almonds. California Almond Board, Extension Article.

Davidson, A and Maciej Zwieniecki (2018) Carbohydrates, the seasonal “currency” of tree responses to management and the environment: A citizen Science Project. *California Walnuts*. Published online October 23, 2018.

Davidson, A.M., Da Silva, D. and DeJong, T.M. (2015). Seasonal variability of leaf appearance rate of proleptic and epicormic shoots of peach (*Prunus persica*) grown in normal and deficit irrigation treatments. *Acta Horticulturae* (ISHS) 1084: 313-320

Davidson, A.M., Da Silva, D. and DeJong, T.M. (2015). Seasonal variability of leaf appearance rate of proleptic and epicormic shoots of peach (*Prunus persica*) grown in normal and deficit irrigation treatments. *Acta Horticulturae* (ISHS) 1084: 313-320

GRANTS

Art:

2021

Examining the value and impact of art integration in an intensive, low residency traveling field school in art, ecology and land use in New York, National Endowment of the Arts, PI, **\$75,000**

Investigating the impact of Andean biogeography on diversification of chemical defenses in the wild tomato *Solanum habrochaites*, National Science Foundation, Senior Research Personal/Collaborator, **\$1,200,000**, Subaward for Broader Impacts **\$34,000** (*in prep*)

2020

Decent and Transformation. An interdisciplinary art and science grant funded by the Ocean Memory Project, a subaward of the National Academies Keck Futures Initiative, Co-PI, **\$10,000**

2018

Ocean Memory: A New Cross-Disciplinary Approach to Global-Scale Challenges. National Academies Keck Futures Initiative. Subaward/collaborator, **\$500,000**

2016

Lost City Hydrothermal Vents-Subaward (outreach), National Science Foundation, \$4,200

Science:

2020

Cross-project approach to accelerate multidisciplinary research on the interaction of nonstructural carbohydrates (NSC) with biotic and abiotic stresses, management practices, and varieties in assessing NSC's dynamics impact on yield. Amendment to an ongoing Carbohydrate Observatory project. Almond Board of California, Co-PI, **\$368,000**

Applying four years of citizen-carbohydrate tracking in nut trees to improve management yields, and combat climate change, Department of Food and Agriculture Specialty Crop Block Grant Program, Co-PI, **\$313,000**

How to irrigate almond orchards-for current year's expected yield for maximum yield potential? Almond Board of California, Research Collaborator **\$428,000**

Carbohydrate management in pistachio. Pistachio Grower Association, Co-PI, **\$75,000**

Collaboration with Olam International, gift to Carbohydrate Observatory Project, **\$10,000**

Collaboration with Wilbur Ellis, gift to Carbohydrate Observatory Project, **\$15,000**

Oregon Hazelnut Board, gift to Carbohydrate Observatory Project, **\$8,000**

2019

Carbohydrate management in pistachio. Pistachio Grower Association, Co-PI, **\$75,000**

Carbohydrate management in walnut trees. Walnut Grower Association, Co-PI, **\$38,000**

Carbohydrate management in almond trees. California Almond Board, Co-PI, **\$83,000**

Collaboration with Olam International, gift to Carbohydrate Observatory Project, **\$10,000**

2018

Carbohydrate Budget Analysis Tool for Improved Management of Nut Tree Orchards Threatened by Climate Change. California Department of Food and Agriculture Specialty Crop Block Grant Program, Co-PI, **\$268,258**

Carbohydrate management in pistachio. Pistachio Grower Association, Co-PI, **\$75,000**

Carbohydrate management in walnut trees. Walnut Grower Association, Co-PI, **\$74,000**

Carbohydrate management in almond trees. California Almond Board, Co-PI, **\$68,000**

2017

Carbohydrate management in walnut trees. Walnut Grower Association, Co-PI, **\$74,000**

Carbohydrate management in pistachio. Pistachio Grower Association, Co-PI, **\$84,000**

Carbohydrate management in almond trees. California Almond Board, Co-PI, **\$68,800**

HONORS & AWARDS

National Academies Keck Futures Initiative-Ocean Memory Working Group, 2017-2019

Freeman Gadberry Award, UC Davis, 2015/16

Margrit Mondavi Fellowship, UC Davis, \$5,000, 2015

Dean's Prize for Best Artwork. UCD Interdisciplinary Graduate Student Symposium, \$1,000, 2015

People's Choice for Best Artwork. UCD Interdisciplinary Graduate Student Symposium, \$1,000, 2015

Graduate Student Association Travel Grant, UC Davis \$300, 2015

Graduate Student Association Funding for Special Projects \$500, 2015

UC Davis Jack Pickett Agriculture Scholarship, \$3,000, 2010-2014

UC Davis Henry A. Jastro Research Award, \$3,000 2011 & 2014

UC Davis Plant Science Travel Award \$300, 2013 & 2014

Dr. Charles Nichols Award in Biology for Excellence in Botany, Ripon College, 2006

Leadership Scholarship, Ripon College, 2002-2006

Biological Honorary Society, Ripon College, 2003-2005

TEACHING EXPERIENCE

Art:

Instructor of Record

2022 NTRES 2600/ENVS2600 Field Research in the Ecological Arts, Dpt. Of Natural Resources and Environment, Cornell University, Ithaca, NY

2021 ENVS 4940 Field Research in the Ecological Arts, Dpt. Of Natural Resources and Environment, Cornell University, Ithaca, NY

2020-21 Focused Studio Practice-*Habitat*, Adjunct Faculty, Dpt. of Art, Sierra Nevada University, Interdisciplinary Arts Low-Residency MFA Program, Incline Village, NV

Mentored Studio Practice, Adjunct Faculty, Dpt. of Art, Sierra Nevada University, Interdisciplinary Arts Low-Residency MFA Program, Incline Village, NV

2017-2020 Beginning Sculpture, Adjunct Faculty, Dpt. of Art, California State University, Sacramento

- 2017 Science 100-01 Alive! The Art and Poetics of Biology, Adjunct Faculty, San Francisco Art Institute
- 2016 Beginning Sculpture, Co- Instructor (Associate In), Dpt. of Art, UC Davis (Spring & Fall)
- 2015 ARTificial Plant, Co-instructor, freshman seminar fusing art and plant physiology, Dpt. of Plant Sciences, UC Davis

Teaching Assistant

- 2016 Physics and Photography, Bridging Art and Science, Art Science Fusion Program, UC Davis
- 2015 Digital Photography, Department of Art, UC Davis
- Advanced Metal Sculpture, Department of Art, UC Davis
- BioArt Studio, Entomology1, Art Science and the World of Insects. Art and Science Fusion Program, UC Davis
- Intermediate Ceramics, Sculpture, Mold-making Department of Art, UC Davis 2014
- Beginning Sculpture, Department of Art, UC Davis
- 2014 Printmaking Studio, Entomology1, Art Science and the World of Insects, Art and Science, Art Science Fusion Program, UC Davis
- Found Objects & Sculpture Studio, Entomology1, Art, Science and the World of Insects, Art and Science, Art Science Fusion Program, UC Davis

Science:

- 2014 Woody Plants in the Landscape, UC Davis
- 2013 Introduction to Biology, UC Davis
- 2011-14 Biological Principles of Fruit Production, UC Davis
- 2011-2014 Biological Applications in Fruit Tree Management, UC Davis

Invited Teaching & Critiques

- 2021 Guest Critic, LA3010, Integrating Theory and Practice-The Alternative Test Kitchen, Dpt. of Landscape Architecture, Cornell, University
- Guest Lecture, ART 3699, Photography: Special Topics, Dpt. Of Art, Cornell University
- Guest Lecture, ENVS 2000 Environment and Sustainability Colloquium, Cornell University
- Guest Critic, LA4020, Adaptive Design Research Studio, Dpt. of Landscape Architecture, Cornell, University
- 2019 Guest Lecture, Biomedica, Dpt. of Emergent Digital Practices, University of Denver
- 2018 Guest Critic, Design Foundations, Department of Experimental and Foundations Studies, Rhode Island School of Design
- 2016 Guest Lecture, Graduate Multimedia Program Forum, California State University, East Bay
- 2016 Guest Lecture, BioDesign Theory and Practice, Dpt. of Design, UC Davis
- 2015 Guest Lecture, Life Studies: Art and Biology, San Francisco Art Institute

CURATORIAL

- Embodied Place, An exhibition by Cornell Students in Field Research in the Ecological Arts*, The Soil Factory, Ithaca, NY 2022
- Juror, Climate Justice = Social Justice*, University Galleries, California State University, Sacramento, CA, 2021
- Curator, *Exquisite Corpse: Art in the time of the virus*. Online ongoing project. 2020
- Co-organizer, Meeting for The Ocean Memory Project, Boone Center for Environmental Studies, Catalina Island, CA, 2019

Master of Ceremonies, Symposium-Engineering the Future, Life Art Science and Technology Festival. Stanford University, Zero 1 Garage, and San Jose State, CA, 2014-2017

Curator, Mental Throes. Third Space Art Collective, Davis, CA, 2015

Curator, The Secret World of Insects. Third Space Art Collective, Davis, CA, 2014

Juror, The Consilience of Art and Science. The Pence Gallery, Davis, CA, 2013

Curator, Organism. Art exhibit fusing Art, Science & Technology. Old Nelson Gallery, Davis, CA, 2012

Curator, Cabinets of Curiosities. Art Science Fusion Final Student Exhibition, Davis, CA, 2011

Curator, Milk and America. Davis Performance Art Ensemble. Big TV Gallery, Davis, CA, 2011

Curator, Davis Community Art Show. Davis, CA, 2010-2013

SCIENTIFIC RESEARCH & PROFESSIONAL EXPERIENCE

Postdoctoral Researcher/Cofounder of the Carbohydrate Observatory, Laboratory of Dr. Maciej Zwieniecki, Department of Plant Sciences, University of California, Davis. Davis, CA. 2016-2020

Graduate Student Researcher, Laboratory of Dr. Ted DeJong, Department of Plant Sciences, University of California Davis. Davis, CA. 2009-2014

Junior Specialist, Laboratory of Dr. Sham Goyal, Department of Plant Sciences, University of California Davis. Davis, CA. 2008-2009

Research Associate, Department of Research-Trait Discovery-Drought Tolerance, Pioneer Hi-Bred International, Woodland, CA 2007-2008

Undergraduate Research Assistant, Laboratory of Dr. George Wittler, Ripon College, Ripon, WI, 2006

NSF Research Experience for Undergraduates Intern, Laboratory of Dr. Robert Turgeon, Cornell University, Ithaca, NY Summers 2003, 2004 and 2005

Undergraduate Researcher, Laboratory of Walter Marin, Universidad de Costa Rica, San Jose, Costa Rica, 2005

RELATED PROFESSIONAL EXPERIENCE/ OUTREACH

Advisory Board Member, Cornell University Press. 2022

Art Curator, Fernow Hall, Cornell University 2021-Present

Founder of the Leonardo Art Science Evening Rendezvous (L.A.S.E.R.) speaker series at UC Davis. Its mission is to provide the general public with a snapshot of the cultural environment of the Davis/ Bay Area and to foster interdisciplinary networking with an emphasis on art and science, 2013-2016

Emcee, Bay Area Life, Art, Science and Technology festival (L.A.S.T.). An event with art, music, dance and speakers from all disciplines, including technology, space exploration and visual arts. Zero 1, San Jose, CA 2014, Stanford, 2016, San Jose State, 2017, SLAC-National Accelerator Laboratory, 2018

Advisory Board Member of Third Space Art Collective. Davis, CA. I serve as the liaison between the collective and UC Davis. Third Space is a group of artists, performers and educators striving to enrich the culture of our community by making the creation and exhibition of art and music accessible to all people regardless of age or economic standing, 2013 -2016

Co-founder and Member of W.I.S.E. (Women In Science Engaging), 2010-2014

Mentor for SEEDS, Students Engaging, Exploring and Discovering Science. UC Davis, 2012-2013

PROFESSIONAL PRESENTATIONS AND MEETINGS

Art:

Invited Speaker, Shoals Marine Laboratory-“Rock Talks” Appledore Island, Kittery, Maine July, 2022
Panelist, Creativity-CoCreation-Collaboration: A Panel Conversation. The Soil Factory, Ithaca, NY, March, 2022
Visiting Artist Talk, Sierra Nevada University, Interdisciplinary Arts Low-Residency MFA Program, Incline Village, NV, 2020
The Ocean Memory Project. Boone Center for Environmental Studies, Catalina Island, CA 2019
Gray Area, San Francisco, CA, 2019
Speaker, Ocean Memory Working Group, Djerassi Artist Residency, 2018
Visiting Artist Talk, California State University Sacramento, Art Studio Graduate Group, 2017
Invited Speaker, Singularity Global Summit. San Francisco, CA, 2016
Invited Speaker, Graduate Multimedia Program Forum, California State University, East Bay, 2016
Invited Speaker, Bioart, Leonardo Art Science Evening Rendezvous, University of California, San Francisco, 2016
Invited Speaker, Artist Talk, Leonardo Art Science Evening Rendezvous/ UC Davis, Davis, CA, 2016
Lecture, La Salle College of the Arts, Singapore, 2015
Invited Speaker, Leonardo Art Science Evening Rendezvous/ UC Berkeley, 2014
Naturally Hypernatural International Bioart Conference, School of Visual Arts, NY, 2014
Balance Unbalance. Art, Science, Technology, Environment, Noosa, Australia, 2013

Science:

The Almond Board of California Webinar, 2020
The Almond Conference 2016-2020
Invited Speaker, Morton Arboretum, Lisle, IL, 2020
Ecological Society of America, New Orleans, USA, 2018
Ecological Society of America, Portland, OR, USA, 2017
Pistachio Day, 2018
Cherry Symposium, 2018
ISHS International Peach Symposium Matera, Italy, 2013
Ecological Society of America. Portland, OR, USA, 2013
Katherine Esau Research Symposium: Integrating Plant Structure with Function, Development and Evolution. UCD, 2013
Guest Lecturer, UC Davis Extension Ornamental Horticulture-Japanese Agricultural Training Program, 2013
Functional Structural Plant Modeling. Davis, CA, USA, 2010
American Society for Plant Biology Merida, Mexico, 2009
The Pan American Congress on Plants and Bioenergy Merida, Mexico, 2009

PROFESSIONAL ORGANIZATIONS

Ocean Memory Project (<https://memory.ocean.washington.edu/>) 2018-current
Art and Science Collaborations, Inc. 2014-current
College Art Association, 2017-current
Leonardo International Society for the Arts, Sciences and Technology, 2008
Association for Women in Science, 2013-2021

International Society for Horticulture Science, 2013

Ecological Society of America, 2012-2021

Graduate Student Association, UC Davis, 2009

American Society of Plant Biology, 2008

LANGUAGES

Fluent in English and Spanish