9th International Oak Society Conference
UC Davis • October 21-24, 2018
Conference Program

#IOS2018Davis
arboretum.ucdavis.edu/IOS2018Davis
Welcome to the 9th International Oak Society Conference!

We are honored to host the International Oak Society for its first ever Northern California conference at the UC Davis Arboretum and Public Garden. We chose “Oak Landscapes of the Future: Adapting to Climate Change” as the theme for the conference in response to the increasing urgency of this global issue.

In the three years since the last conference in 2015 at the Morton Arboretum, Californians have endured record-breaking drought, rainfall, and wildfires and have watched news reports of extreme weather around the world. Global climate change has been described as the biggest threat to our planet and the greatest challenge of our time. From urban forests to wildlands to public garden collections, all natural and human-created landscapes will be profoundly affected. This is our call to action.

Developing and implementing solutions for adaptation and mitigation to protect and ensure the longevity of the oak landscapes that we treasure will require creativity and collaboration across boundaries and disciplines. This is why it is so important for us to come together now, to share ideas and build connections between experts and enthusiasts, agencies and academia, arborists and artists.

The UC Davis Arboretum and Public Garden encompasses the landscape of the full 5,300-acre campus, including a 100-acre arboretum, an urban campus core, natural areas, and agricultural lands. Our organization holds the unique position of being responsible for the long-term stewardship of oak trees in these diverse settings as well as being a training ground for future environmental leaders. Looking to the decades ahead, we are in the midst of developing a Living Landscape Adaptation Plan that will identify key strategies for building resilience in our tree canopy for uncertain future climate realities.

The Arboretum and Public Garden’s purpose is to inspire human potential to help people and environments thrive. We hope you will depart from this conference with the energy and optimism we will need to rise to the challenges ahead.

Emily Griswold
Conference Committee Chair
Director of GATEways Horticulture and Teaching Gardens
UC Davis Arboretum and Public Garden

Acknowledgements

Sacramento Tree Foundation
Pepperwood Preserve
UC Davis Center for Plant Diversity
City of Davis
Tree Davis
Morton Arboretum

Conference Committee Members:
Emily Griswold
Shannon Still
Stewart Winchester
David Muffly
Zarah Wyly
Rachel Davis
Abbey Hart
Melissa Cruz

Special thanks to all the UC Davis Arboretum and Public Garden staff, students, volunteers, IOS Board members, presenters, and donors who made the conference possible.
Peter J. Shields Oak Grove

Started in 1962, Shields Oak Grove is the UC Davis Arboretum and Public Garden’s most significant scientific collection. The 10-acre grove is unique for its tremendous diversity of mature trees from around the world with a special emphasis on species from warm and dry climates. As one of the largest public collections of oaks in the United States, it has attracted oak researchers and enthusiasts for decades. In 2007, the oak collection became nationally accredited through the American Public Gardens Association Plant Collections Network in recognition of the Shields Oak Grove’s diversity, value, and high standards of museum records and care.

Conference Schedule – Sunday, October 21

8 AM–3 PM
OPTIONAL DAY TRIP – FROG POND TRAIL
Oaks in the Berryessa Snow Mountain National Monument .........................Departs from Conference Center

8 AM–4 PM
OPTIONAL DAY TRIP – THE OAKS OF PEPPERWOOD
Research, Land Management and Fire ..........................................................Departs from Conference Center

8 AM–5 PM
OPTIONAL DAY TRIP – WINE COUNTRY
Tour and Tastings ..........................................................Departs from Conference Center

1–4 PM
OAK DISCOVERY DAY
Free public event for all ages with self-guided tours, fun oak activities, and Native Californian acorn grinding and food preparation demonstration..........................Shields Oak Grove

4–7 PM
Registration Desk Opens ..................................Conference Center Lobby

6–7 PM
Opening Reception ........................................Conference Center Lobby

7–8 PM
Keynote Address .................................................. Ballroom B & C
Recovery and Resilience of Oak Woodlands Following the October 2017 Tubbs Fire
• David Ackerly, University of California, Berkeley

Satellite Meetings – Sunday, October 21

9 AM–NOON
IOS Board Meeting .................................. Arboretum Headquarters Library

4:30–6 PM
Oaks of the Americas Conservation Network ........................................Conference Room A

5–6 PM
APGA Plant Collections Network Multisite Quercus Curatorial Group ..........Conference Room B
Conference Schedule – Monday, October 22

7 AM
Registration Desk Opens ......................................................... Lobby

8–10 AM
Plenary Session .......................................................... Ballroom B&C
Moderator: Emily Griswold, UC Davis Arboretum and Public Garden

Welcome and Opening Remarks
• Charles Snyers, International Oak Society
• Shannon Still, UC Davis Arboretum and Public Garden

Introduction to California Oak Diversity
• Pamela Muick, Contra Costa Solano Colleges

The California Acorn Survey: What 39 Years of Counting Acorns Can Tell You
• Walt Koenig, Cornell University and University of California, Berkeley

Assessing the Climate Change Vulnerability of California’s Oak Vegetation Types
• James Thorne, University of California, Davis

10–10:20 AM
Coffee Break ................................................................. Lobby

10:20 AM–NOON
CONCURRENT SESSIONS

Track A: Global Oak Diversity ............................................ Ballroom B&C
Moderator: Béatrice Chassé, Arboretum des Pouyouleix

Evolution of the World’s Oaks: Phylogeny and Biogeography of the Genus Quercus
• Andrew Hipp, The Morton Arboretum

Neotropical Oaks Phylogeography and Conservation
• Hernando Rodríguez Correa, Universidad Nacional Autónoma de México

Major Asian Lineages of the Beech Family
• Chuck Cannon, The Morton Arboretum

The Oaks of Vietnam: Origin, Evolution and Genomic Diversity
• Joeri Sergej Strijk, Guangxi University

10:20 AM–NOON

Track B: Urban Oak Habitats ................................................... Ballroom A
Moderator: Zarah Wyly, Sacramento Tree Foundation

Re-Oaking Silicon Valley: Building Climate Resilience with Oaks in Cities
• Erica Spotswood, San Francisco Estuary Institute

Seed to Seedling: Inspiring Kids While Growing Oaks for Our Future
• Pamela Sanchez, Sacramento Tree Foundation

Effects of Human Plantings and Weather Variation on Gall Wasps and Leaf Miners on Oaks
• Ian Pearse, U.S. Geological Survey, Ft Collins Colorado

Value of Oaks to Wildlife in Urban Sacramento
• Daniel A. Airola, Northwest Hydraulic Consultants

NOON–1:30 PM
Lunch Break and Poster Session ........................................... Lobby

Don’t Ask, Don’t Tell Is Not the Best Policy
• Pamela Allenstein, American Public Gardens Association

Oaks as a Pilot Group for Developing Conservation Gap Analysis Methodologies
• Emily Beckman, The Morton Arboretum

Future Climate Change will Reduce Growth of the California Endemic Valley Oak
• Luke Browne, University of California, Los Angeles

Predisposition To decline: Predicting AOD Occurrence with Environmental Factors
• Sandra Denman, Forest Research, United Kingdom

High Quality Genome Assembly and Annotation of a California Endemic Oak
• Sorel Fitz-Gibbon, University of California, Los Angeles

Mitigating Drowned Oaks
• Ken Knight, Kenneth A. Knight Consulting, LLC

Functional Trait Variation of Quercus castanea Née along a Climate Gradient in the Cuitzeo Basin, Michoacan, Mexico
• Libny Ingrid Lara De La Cruz, Universidad Nacional Autónoma de México (UNAM), Morelia, Michoacán, México

Effects of Variation in Bud Burst and Flowering Penology on Acorn Production in a Savanna Population of Valley Oak
• Andy Lentz, University of California, Santa Barbara

Miocene Divergence and Pleistocene Introngression of Two Deciduous Oak Species from Section Cerris in China
• Yao Li, Nanjing Forestry University, China & University of California, Los Angeles

Fate of California Black Oaks in Large Wildfires
• Jonathan W. Long, USDA Forest Service Pacific Northwest Research Station

Physiological and Gene Expression Response of Valley Oak (Quercus lobata) Seedlings to Water Stress
• Alayna Mead, University of California, Los Angeles

Ancient Introgression Among Two Distantly Related White Oak Species in Southern California: When and How Much?
• Scott O’Donnell, University of California, Los Angeles

New Oak Cultivars 2018
• Ryan Russell, City of Columbia, Missouri

An Overview of Drippy Blight Disease of Red Oaks
• Rachael Sitz, United States Forest Service, Rocky Mountain Research Station

Climatic and Soil Factors shape the Demographical History and Genetic Diversity of Quercus liaotungensis in North China
• Jia Yang, Northwest University, Xi’an, Shaanxi Province, China

Refer to the conference website for abstracts, presenting author biographies, and co-author listings. Please note that only presenting authors are listed in the program.

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Conference Schedule – Monday, October 22

1:30–3 PM
CONCURRENT SESSIONS
Track A: Lightning Talks ........................................Ballroom B&C
Moderator: Taylor Lewis, UC Davis Arboretum and Public Garden

Using the IUCN Red List to Assess the Global Status of Oaks
  • Christina Carrero, The Morton Arboretum

Highlights of a California Landowner’s Twenty-two Year Oak Woodland Conservation Project
  • Diane S. Pepetone, California Naturalist

Sharing Oak Woodland Research through a Popular Website
  • Devii Rao, University of California Cooperative Extension

The Great Oak Count and The OakWell Survey: Comprehensive Surveys of Palo Alto’s Native Oaks
  • Elise Willis, Canopy, Palo Alto, California

Oaks in the Mix: Championing Quercus within a Diverse Living Collection
  • Vanessa Handley, University of California Botanical Garden, Berkeley

Root Sucker Cutting Propagation of Dwarf Oak Species as an Alternative to Seed Propagation for Ex-situ Conservation
  • Adam Block, Peckerwood Garden, Texas

Addressing Roots of Threats to Oaks
  • Hilary and Jen Bayer, Magic, Palo Alto, California

Evaluating the Impact of Emergent Disease on Microbial and Insect Populations in the Tree Ecosystem
  • Shyamali Roy, University of Reading, United Kingdom

Managing Sudden Oak Death: Selected Studies on What Works, and What Doesn’t
  • Steven Swain, University of California Cooperative Extension

Combining Molecular Data to Reconstruct the Evolution of Oaks
  • Damien D. Hinsinger, College of Forestry, Nanning, China

Species Boundaries Between Three Sympatric Oak Species at the Northern Edge of their Distribution in China
  • Fang Du, Beijing Forestry University, China

Wither the Mighty Oak? Examining Trends in Large Hardwood Trees in Northern California and Southern Oregon, USA
  • Jonathan W. Long, USDA Forest Service Pacific Northwest Research Station

Common Names for Oaks in Western Europe - and the Spanish Problem
  • Roderick Cameron, Grigadale Arboretum, Argentina

Intimate Encounters with Wild Oaks: TreeGirl Nude Photography with Fantastical, Famous and Ancient Oaks
  • Julianne Skai Arbor, TreeGirl Studios

Track B: In-depth Case Study ......................................Ballroom A
The Oaks of Apple Park, presented by Dave Muffly

Track C: “Quercophiles Abroad” Film ..........Conference Room A
Compiled by Dan Keiser

3:30–3:30 PM
Afternoon Break............................................................Lobby

3:30–5:30 PM
WORKSHOPS
Climate Change and California Native Cultures’ Uses of Oaks: Food, Art, and Tribal Identity..........................Putah Creek Lodge
  • Frank K. Lake, USDA Forest Service, Pacific Southwest Research Station

Developing a Global Fagaceae Working Group ....................Conference Room A
  • Chuck Cannon, The Morton Arboretum

Open Science Protocols for Contributing to Informal Oak Research Networks...............Conference Room B
  • Prahlada Papper, UC Berkeley

Structural Pruning of Oaks .......................Conference Center Courtyard
  • Brian Kempf, Urban Tree Foundation

Establishing a Consortium of Ex Situ Conservation Collections for Threatened North American Oaks .........................Ballroom A
  • Murphy Westwood, The Morton Arboretum
7:30 AM
Registration Desk Opens ..............................................................Lobby

8–10 AM
CONCURRENT SESSIONS

Track A: Oak Evolution and Genetic Diversity ......................................................Ballroom A

Moderator: Andrew Hipp, The Morton Arboretum

Functional Diversification in the ‘Roburoid Oaks’
- José A. Ramírez-Valiente, Centre of Forest Research, INIA-CIFOR, Madrid, Spain

Ecosystem Consequences of Species Coexistence in Highly Diverse Oak Communities
- Antonio González-Rodríguez, Universidad Nacional Autónoma de México

Population Genetic Structure of Bur Oak (Quercus macrocarpa)
- Mira Garner, The Morton Arboretum

Episodic Hybrid Advantage Keeps Species Boundaries Low in Oaks (Quercus)
- Warren Chatwin, University of Notre Dame

Track B: Oak Land Management and Conservation Concerns .........................Ballroom B & C

Moderator: Timothy M. Boland, Polly Hill Arboretum

Reforestation of Mount Tavor Oak in the Low Land of Israel
- Ezra Barnea, Barnea Oak Nursery

Oak Woodland Regeneration in Fuel Treatment Areas Before and After the 2017 Tubbs Fire, Sonoma County, CA
- Michelle Halbur, Pepperwood Preserve

Biotic and Abiotic Factors and Their Involvement in Oak Trees
- Idan Kopler, Shamir Research Institute, University of Haifa, Kazrin, Israel

Drought and Beetle Impacts to Native Trees in the Santa Monica Mountains: What Does the Future Hold?
- Rosi Dagit, Resource Conservation District of the Santa Monica Mountains

10–10:20 AM
Coffee Break .........................................................................................Lobby

10:20 AM–NOON
CONCURRENT SESSIONS

Track A: California Oak Evolution and Genetic Diversity .............................Ballroom B & C

Moderator: Shannon Still, UC Davis Arboretum and Public Garden

Potential Role of Epigenetics in Ability of Oaks to Respond to Environmental Change
- Victoria Sork, University of California, Los Angeles

Modeling Adaptive Gene Flow in California White Oaks Through Historic and Future Climate Change
- Prahlada Papper, UC Berkeley

11–12 PM
Lunch Break .......................................................................................Lobby

1–4:30 PM
Local Tours ..........................................................Depart from Conference Center

- Shields Oak Grove Deep Immersion Tour
- Sacramento Region Urban Forest and Capitol Park Tour
- Tour of Habitat Restoration on the Putah Creek Riparian Reserve
- Arboretum Horticulture and Plant Collections Tour
- Arboretum GATEways Tour – Academic Engagement Gardens and Student Leadership Programs
- Plant Conservation and Collections-Based Research Tour
- Bicycle Tour of UC Davis campus and City of Davis Urban Forest

5:30 PM
Buses depart for Sacramento .........................................................Conference Center

6–9 PM
Gala Dinner, Awards Ceremony, and Keynote Address ..........................Sacramento Library Galleria

Historical Ecology of Northern California: Learning from the Past to Prepare for the Future
- Robin Grossinger, San Francisco Estuary Institute

9:00 PM
Buses depart for return trip to Davis ..............................................Sacramento Library Galleria
Conference Schedule – Wednesday, October 24

7:30 AM
Registration Desk Opens .................................................. Lobby

8–10 AM
CONCURRENT SESSIONS

Track A: Climate Change and Urban Oak Landscapes .............................................. Ballroom B&C
Moderator: Andrew Fulks, UC Davis Arboretum and Public Garden

UC Davis Living Landscape Adaptation Plan
  • Shannon Still, University of California, Davis
Utilizing California’s Climate Change Legislation to Keep Oaks Standing
  • Angela Moskow, California Wildlife Foundation/California Oaks
Urban Oak Landscapes of the Future
  • Bryan Denig, Cornell University
The Difficulty of Planting Urban Trees in France Under Climate Change
  • Thierry Lamant, Arboretum des Grandes Bruyères, Ingrannes, France

Track B: Global Oak Conservation .............................................. Ballroom A
Moderator: Charles Snyers, International Oak Society

Climate Risk to Oak Species in Oaxaca, Mexico
  • John N. Williams, CIIDIR-OAXACA, Instituto Politécnico Nacional, Mexico
New Efforts in Mexican Quercus Conservation
  • Maricela Rodríguez-Acosta, Puebla University Botanical Garden, BUAP, Mexico
Mapping the Elevational Distribution of Oaks in the Eastern Himalayan Mountains
  • James Thorne, University of California, Davis
The Conservation of Quercus ilex subsp. rotundifolia in the Dehesas of the Southwestern Iberian Peninsula
  • Hendrik Brand, University of Kassel, Witzenhausen, Germany

Track C: Insect and Pathogen Threats to Oaks .............................................. Ballroom A
Moderator: Christopher Lee, California Oak Mortality Task Force, California Department of Forestry and Fire Protection

Oak Health Issues in the UK and Approaches to Ensuring Resilient Oak Trees for Future Generations
  • Sandra Denman, UK Forest Research
Oak Mortality Patterns and Causes in the Midwest
  • Rose-Marie Muzika, University of Missouri
Southern California Pest and Diseases: History, Biology and Current Research
  • Akif Eskalen, UC Cooperative Extension, Davis
Sudden Oak Death: Trends and New Discoveries
  • Dave Rizzo, University of California, Davis

10–10:20 AM
Coffee Break ................................................................. Lobby

10:20 AM–NOON
CONCURRENT SESSIONS

Track A: Oak Utilization and Cultural Landscapes .............................................. Ballroom B&C
Moderator: Rachel Davis, UC Davis Arboretum and Public Garden

Working with Beautiful Oaks to Produce Delicious Truffles
  • Bogdan Caceu, La Cireole Orchards, Salem, Oregon
Tribal Traditional Knowledge, Stewardship of Tanoaks, Cultural Landscape Practices and Climate Adaptation: Sustaining a Future of Acorn Traditions and Food Security in the Klamath-Siskiyou Bioregion, Western United States
  • Frank K. Lake, USDA Forest Service Pacific Southwest Research Station

Track B: Plant Collections and Public Garden Conservation Initiatives ............... Conference Room A
Moderator: Dirk Giseburt, Kruckeberg Botanic Garden

Plant Collections Network Multisite Quercus Collection: Collaborative Efforts from 2015-2018
  • Matthew Lobdell, The Morton Arboretum
Cultivated Oaks of the World: Putting Oak Collections on the Map
  • Roderick Cameron, International Oak Society
The Morton Arboretum’s Oak Conservation Efforts in Mexico and Central America
  • Silvia Alvarez-Clare, The Morton Arboretum
The ConServator – Conservation Mapping and its Role in Oak Conservation
  • Timothy M. Boland, Poly Hill Arboretum

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Sudden Oak Death: Trends and New Discoveries
  • Dave Rizzo, University of California, Davis

NOON–1 PM
Lunch Break ...................................................................... Lobby

1–1:30 PM
Wrap up Discussion and Closing Commentary ...................... Ballroom B&C

1:30–3 PM
International Oak Society Meeting of Members .......... Ballroom B&C

3–4 PM
Seed Exchange ...................................................................... Ballroom A

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