PLANTS AND DESIGN

Track Sponsors

Research Results – Trees, Sidewalks, and Urban Plazas
Dr. Tom Smiley, Bartlett Tree Research Laboratory

Dr. Tom Smiley will be discussing his research on growing trees near concrete, in downtown urban plaza areas and near suburban sidewalks. This research illustrates many of the strategies that can be used to increase tree growth and survival in these situations.

Dr. Tom Smiley is a Senior Arboricultural Researcher at the Bartlett Tree Research Laboratory now based in Washington State. Dr. Smiley is active in the arboriculture industry and has co-authored many of the ISA’s Best Management Practices and the CTLA’s Guide for Plant Appraisal 10th edition. His research has led to improved methods of increasing sidewalk longevity near trees, protecting trees from lightning damage, improving tree root growth, and reducing tree risk.

Trees for Small Spaces or Containers
Jackie Lyle, Civano Growers

Small spaces aren’t just for shrubs, and while large trees may be more impressive, designing with small trees can create texture and depth in the landscape while taking advantage of small spaces. This presentation is an introduction and discussion of small trees that are versatile and proven to thrive in arid urban environments.

Jackie Lyle is the Vice President of Operations and Communications for Civano Growers in Tucson, Arizona. As an ISA Certified Arborist and member of the City of Tucson Landscape Advisory Committee, Jackie is well-versed in urban and residential horticulture for the Southwest. She is also a Pima County Master Gardener and she sits on the board of the Arizona Community Tree Council. In her free time, Jackie volunteers as a docent at the University of Arizona Campus Arboretum. She also enjoys visiting famous trees around the world.
Matching Plant Supply and Demand – Expert Panel of Landscape Planners, Designers, Nursery Growers, and Landscape Companies
Rebeca Field, Steve Plath, Jackie Lyle, Carianne Campbell, and Deborah Munoz-Chacon

Shifts in popularity of plant species and container sizes are common in the green industry. When this happens, both the demand and supply side may be caught unprepared. Experts on this panel will share how to address the mismatch in plant supply and demand and present ideas how to minimize this issue. Audience participation in the discussion is welcome.

Rebecca Field, PLA works as project manager, planner and landscape architect for Kimley-Horn in Tucson. Steve Plath works for the Gila Watershed Partnership and is the nursery manager at the Gila Native Plant Nursery in Safford, Arizona. The nursery provides native plants for revegetation on the Upper Gila River as well as produces native plants for other conservation organizations and agencies. He previously was a co-owner of Signature Botanica LLC, a native plant nursery in Morristown, Arizona which specialized in Tallpot tree production.
Jackie Lyle (see above), Carianne Campbell (see below), and Deborah Munoz-Chacon (see below)

The Minimally Irrigated Garden
Scott Calhoun, Zona Garden

Droughts, high water bills, and a desire for low-care landscapes have made low-water-use plants and garden designs more important than ever. Join garden designer and author Scott Calhoun for a talk about plants and garden designs durable enough to withstand multiple weeks of neglect.

Scott Calhoun has gardened in the American Southwest for over 30 years and is the author and photographer of six books about the region. Scott is a Phoenix Home & Garden “Master of the Southwest” and his work has been featured in The New York Times and The Wall Street Journal. Scott runs Zona Gardens, a landscape design studio based in Tucson, Arizona.

Planting and Maintenance of Urban Landscapes with Wildlife in Mind
Deborah Munoz-Chacon, Sonoran Oasis; Carianne Campbell, Strategic Habitat Enhancements

Our urban desert landscapes have many purposes – one important purpose can be as functioning ecosystems as well! Learn with two industry professionals about simple ways to incorporate considerations for attracting pollinators and other wildlife into your designs and maintenance programs. Deborah Munoz-Chacon is the owner of Sonoran Oasis Landscaping, specializing in HOA maintenance and residential landscaping. Carianne Campbell is the owner of Strategic Habitat Enhancements, specializing in bringing nature into residential landscapes with native plants. Topics that will be covered include: plant selection, nuisance wildlife, pest control, proper pruning, “cleaning up”, irrigation, water for wildlife, and more.

Deborah Munoz-Chacon is the owner of Sonoran Oasis Landscaping. She has been in the landscape industry for over twenty years. She is a certified arborist, desert landscape and house plant books author and desert plant enthusiast.
Carianne Campbell is a well-known advocate for native plant conservation and restoration, and has conducted projects large and small throughout the region. She has served on the Board of the Society for Ecological Restoration, Southwest Chapter, as the President of the Tucson Chapter of the Arizona Native
Plant Society, and as the Wildlife Habitat Representative on the City of Tucson's Landscape Advisory Committee. She has worked in the government, business, and non-profit sectors over the past 20 years, and recently has started her own consulting firm, Strategic Habitat Enhancements, LLC.

Agave Cultivation
Greg Starr, Starr Nursery

In this presentation, Greg will discuss the various aspects regarding Agave cultivation. Some of the topics include cold hardiness, sun exposure, soil, watering, and pests. If time permits, he will show his top five species to grow in the Tucson area.

Greg Starr was born and raised in Tucson, Arizona, and has grown to love the desert and its flora and fauna. He graduated from the University of Arizona in 1979 with a Bachelor of Science in Horticulture, returning to the University of Arizona to study Botany and further his education in horticulture. Greg made his first foray into Mexico when he traveled to Baja California in 1981 with noted Sonoran Desert botanists Dr. Ray Turner and Dr. Tony Burgess. He got hooked on agaves during the trip and then Dr. Howard Scott Gentry’s book on Agaves of Continental North America was released in 1982, further fueling the fire of maguey.

PLANT HEALTH
Track Sponsor

Cooperative Extension
Pima County – Master Gardener Program

IPM in Landscapes
Dr. Shaku Nair, UA Entomology and Arizona Pest Management Center

Landscape pests include insects, pathogens, weeds and wildlife that affect plants, as well as structural pests that can be found in or around buildings and are supported by human activity, such as rodents. Integrated pest management or IPM is a holistic approach to pest management that seeks to manage pests effectively with the least risk to people, property and the environment. IPM does not aim to eliminate all pests, but maintain a balanced system where pest levels can be tolerated with minimal intervention. This talk will cover some practices essential to a landscape IPM program, and give examples of IPM strategies for selected landscape pests.

Dr. Shaku Nair is an entomologist by passion and profession, and a strong advocate of integrated pest management (IPM) to manage pests in any situation. She has expertise in IPM in natural and structural environments. Her primary responsibilities include translational research on pest management and community education, and facilitating IPM implementation and adoption in different community environments in Arizona such as schools, housing, turf and landscape, recreational areas and medical
facilities. Shaku currently is an Associate in Extension, Community IPM at the Arizona Pest Management Center, University of Arizona.

**Update on Blue Palo Verde Witches Broom and Mistletoe**
Dr. Ursula Schuch, UA Plant Sciences

Witches broom on blue palo verde is a widespread disease in Arizona landscapes and can be damaging to the structural integrity of the trees. Updates on the latest research results regarding how broom symptoms are related to infection status with the emaravirus, and virus transmission during propagation and in the landscape will be discussed. Mistletoe is sometimes confused with witches broom and the biology and management of this parasitic plant will be reviewed.

Dr. Ursula Schuch is a University of Arizona Extension Specialist and Professor with responsibility in environmental horticulture. She presents seminars and workshops for professionals in the green industry and conducts research to address relevant issues in horticulture production practices and landscape management. Her research interests include irrigation requirements of trees and shrubs, abiotic stress affecting landscape and other plants, and minimizing inputs in nursery production and landscape management.

**Diagnosing the Most Common Disorders of Trees and Shrubs in our Landscapes**
Dr. Alex Hu, UA Plant Sciences

Urban environments in general are stressful to landscape trees and shrubs. This is especially true in Arizona as the entire southwestern US region experiences enduring drought. In this talk, you will learn to be a plant doctor by becoming your own investigator. The goal is to understand the principles of a systematic approach to the plant diagnostic process, learn to recognize the signs and symptoms of plant disorders, and become familiar with various types of insect and disease problems and their impact on plants.

Dr. Alex Hu is an Assistant Specialist and professor of plant pathology in the School of Plant Sciences at the University of Arizona. He is stationed on main campus in Tucson and is the leader of the UA Extension Plant Pathology programs for field crops and fruit nut crops, including cotton, small grains, and fruit nut trees. He received his PhD in plant pathology from Virginia Tech University. Alex manages cooperative efforts to provide disease diagnostic support and develop disease management strategies and information that improve crop production efficiency.

**Buffelgrass and other Invasives**
Dr. Kim Franklin, Arizona Sonoran Desert Museum

For some time, some in our community have been warning of a catastrophic fire fueled by buffelgrass and other invasive grass species. The 2020 Bighorn Fire was a near miss. In this talk, I will share what we’ve learned about the role of buffelgrass and other invasives in the Bighorn Fire
and provide an update on the status of the buffelgrass invasion in the Tucson Basin. Methods to control invasive plants will be discussed.

**Dr. Kim Franklin** is the Conservation Science Manager at the Arizona-Sonora Desert Museum where she works with staff, volunteers and partners to advance invasive species control efforts in southern Arizona through research, policy, and education. In addition to her invasive species work, she recently helped launch the Tucson Bee Collaborative, a partnership effort to better understand the immense diversity of native bees in the Sonoran Desert.

**Insect Pests to Watch throughout the Year**
*Gene Hall, UA Entomology*

This presentation will highlight insects commonly found in urban landscapes and the problems they may cause on landscape plants, including trees and shrubs. Participants will learn how to monitor insects and their different life stages throughout the year. Information on how to identify and manage these insects will be presented.

**Gene Hall** has studied the insects of the Sonoran Desert for 35 years and is the manager of the University of Arizona Insect Collection. He provides insect and other arthropod identifications as part of UA’s CALS Cooperative Extension's Insect Diagnostics Clinic. Gene is interested in museum collections as resources to preserve and document our planet’s biodiversity, using specimens and associated data for scientific research and public outreach worldwide.

**Higher Temperatures and Pest Populations – People and Plants in Peril**
*Dr. Dawn Gouge, UA Entomology*

How global climate change affects plant and animal pests is ecologically complex. In Arizona, our climate is trending towards warmer and drier years. We can anticipate this influencing pest and beneficial species range, life history and population dynamics. We expect significant ecosystem changes altering the interactions of plants, animals and the pathogens associated with them. Insect pests greatly affect the productivity, profitability, enjoyment and safety of working in horticultural environments. However, responses of insect pests to ongoing climate warming cannot be generalized and predicting pest challenges is increasingly complex.

**Dr. Dawn Gouge** is a public health entomologist and integrated pest management specialist working on pests that negatively impact human health. She manages an applied research, teaching, and Extension program focused on pest ecology and reduced-hazard management of medically significant arthropods.
Tracking Sponsors

Planning and Maintaining Firewise Landscapes
Chris Jones, UA Gila County Cooperative Extension

Wildfires in the Sonoran desert have become increasing large and more frequent in the past two decades. In this presentation, you will learn how wildfire embers are a major source of home ignitions during wildfires, where homes and landscapes are exposed to embers, and how to limit those exposures. Extension Agent Jones will discuss how landscape designers can plan for wildfire in order to prevent home ignitions, as well as how to maintain desert landscapes to be Firewise®.

Chris Jones is a Cooperative Extension Agent at the University of Arizona. He is responsible for Agriculture and Natural Resources programs in Gila County. He conducts Extension programming in forest health, watersheds, and horticulture education. Chris' mission at the University of Arizona Cooperative Extension is to improve lives, families, communities, the environment and economies through applied research and education in Arizona and beyond.

Water Supply Prospects and Challenges for AZ and the Region
Dr. Sharon Megdal, UA Water Resources Research Center

Arizona’s reliance on groundwater and expected reductions in surface water deliveries through the Central Arizona Project have much of Arizona facing water supply challenges. The presentation will address water issues Arizona communities and water users are grappling with as Arizona continues to grow under changing climate conditions. Landscaping and community design considerations will play an important role in shaping water demands as Arizonans strive for water sustainability, however defined.

Dr. Sharon B. Megdal is Director of the University of Arizona Water Resources Research Center and Professor of Environmental Science. The geographic focus of her water policy and management work ranges from local to international. In December 2020, she completed 12 years as an elected member of the Central Arizona Project Board of Directors. She grew up in New Jersey and holds a Ph.D. in Economics from Princeton University.
Preserving and Transplanting Saguaros  
Patricia Patton, AZ Cactus & Trees

This presentation will cover how to preserve the Sonoran Desert giants in urban landscapes and how to remove and relocate saguaros successfully. Other maintenance procedures to maintain or improve the health of saguaros will be discussed. The Best Management Practices for Saguaro Translocation and Replanting provides information to help reduce impacts to saguaros from development in Arizona and includes recommendations on planning saguaro transplanting, preparing saguaros for transplanting, transplanting saguaros, and post-care of saguaros.

**Patricia Patton** is the owner and operator of AZ Cactus and Trees and has been performing tree and cactus work for over 20 years. She is a certified arborist, and is recognized as an expert in saguaro preservation and transplanting.

Irrigation Maintenance  
Keith Schweiger, Calsense

This presentation will address what a 2-wire or decoder system is and how it differs electrically in the field from traditional field wire. The applications where it may be best utilized, and a high-level understanding of general troubleshooting best practices and procedures. We will conclude discussing how master valves and flow sensors assist in managing water and minimizing unintended consequences.

Keith Schweiger, Technical Sales Representative for Calsense, has more than 35 years of experience in the irrigation industry, including owning and operating his own irrigation-contracting firm. He is a Certified Landscape Water Manager (CLWM), Certified Irrigation Designer (CID), Certified Landscape Irrigation Auditor (CLIA), Certified Irrigation Contractor (CIC), Certified Irrigation Technician (CIT) and has his QWEL. He has been involved in training and professional instruction for the last 20 years, including for the Irrigation Association, and is a past Chair of the Irrigation Association Education Committee.

Drought Resilience from the Utility Perspective  
Dr. Jaimie Galayda, Tucson Water; Wally Wilson, Metro Water

Tucson Water and Metro Water representatives will discuss their drought planning process and how they plan on working with nurseries and the landscape industry to support community wide drought response measures. Tucson Water updated their Drought Preparedness and Response Plan in 2020. Metro Water is currently updating their drought plan. Both plans will align with the 2019 Drought Contingency Plan, the latest sharing agreement between the seven states that depend on Colorado River water.

**Dr. Jaimie Galayda** is the Lead Planner with Tucson Water’s Public Information and Conservation Office. She joined the City of Tucson in 2016 as the Planning, Transportation & Sustainability Policy Advisor for Mayor Jonathan Rothschild. Prior to that, she had been a Research Project Manager with the Institute of the Environment at the University of Arizona and with Yudelson Associates, a sustainability planning and consulting firm. Ms. Galayda earned a Ph.D. in Ecological Economics from Rensselaer Polytechnic Institute in Troy, NY and is also certified as a LEED AP in Existing Buildings.

**Mr. Wilson** graduated with a BS in Geology, has over 30 years of experience as a water professional, including Chief Hydrologist for the City of Tucson and currently Water Resources Manager for the Metropolitan Domestic Water Improvement District in the Tucson area. He planned and conducted
remedial investigations in a half dozen western states that included groundwater, surface water, soils and hazardous materials. For the last 17 years, he has had a progressive career in water resource development and planning, Arizona state water law and policy, recharge feasibility and facility design, and general water provider utility management.

**Sustainable Urban Forestry in the Desert Southwest: Myth or Opportunity?**
Richard Adkins, City of Tempe

Tree planting quotas and shade canopy goals are common management initiatives. The task of balancing benefits and values of trees with space limitations and extreme environmental conditions is challenging. Communities are looking to grow the Urban Forest resource but are the efforts sustainable? Let’s review some considerations and strategies for implementing a successful program.

Richard Adkins has worked on both public and private urban forest lands in Arizona for the past 25 years, with some additional years of community forestry around the world. As an ASCA Registered Consulting Arborist, ISA Certified Arborist, Municipal Specialist and Tree Risk Assessment Qualified, Richard is dedicated to educating others to understand the benefits, values, and needs of urban trees. He strives to develop a sustainable and diverse urban forest resource.