



STREET TREE SEMINAR, INC.

Your Los Angeles/Orange Regional Urban Forest Council

P.O. Box 6415
Anaheim, CA 92816-6415



SAVE THE DATE:

December 17, 2015
**Scholarship Awards &
Officer Installation**

Kellogg West Conference Center
Pomona, CA

2015/16 MEETING SCHEDULE

Dec. 17	Annual Scholarship Awards & Officer Installation	Kellogg West Conference Center Pomona, CA
February 3	WTMS - Winter Program	Rothenberg Hall Huntington Library and Gardens

Interested in hosting a program in your community? We are interested in hearing from you!
Contact heather@streettreeseminar.com

MISSION STATEMENT

"To promote the advancement of urban forestry and provide a forum for tree care professionals to share their experiences, knowledge, and expertise for the benefit of the membership and the enhancement of Southern California's community forests."

VISION STATEMENT

"To enhance the health and beauty of Southern California cities by improving the quality of our community forests."

Remember to email Ann Hope at ann@mauget.com with your reservation



STREET TREE SEMINAR, INC. - Your Los Angeles/Orange Regional Urban Forest Council

STS Newsletter

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VOLUME XXI ISSUE 5

Polyphagous Shot Hole Borer Update—Ann Hope

Our last meeting was on September 17 2015, at the campus of UCI in Irvine. The meeting was held at the site of current research on PSHB in Orange County.

Our first speaker was Richard Demerjian, Director of Environmental Planning and Sustainability at UCI. He spoke about the campus, and how it has developed into a Living Laboratory, with a mix of both natural and urban environments on the campus. This is for the students and the community. There are over 30 thousand trees on the UCI campus, which are made up of 200 different species of trees.

The Sycamores on campus are currently under attack, with more than 300 slated to be removed after being deemed hazard trees. Richard is putting a plan in to place for the reforestation of the campus. This will require a lot of work on his part to find the proper trees. The UCI campus is allowing the University of Riverside Cooperative Ext., to use the campus as a research location, as there are many trees under attack from the PSHB and GSOB on their campus.

Richard indicated there has been a lesson learned: be able to adapt to current conditions, closely monitor trees, and collaborate with others. This will provide for long term strategies and management of the natural areas.

For those of you who are not familiar with PSHB, Polyphagous Shot Hole Borer, this is a new invasive insect that is killing thousands of trees in Southern California. This pest has been found on 34 types of reproductive host trees; the majority of these are street trees. One of the biggest problems California is seeing with this pest is that Avocado Trees are one of the host trees, which is a major concern in San Diego County and across California.

Another pest which has made its way up from San Diego is the Golden Spotted Oak Borer (GSOB). We are now seeing this insect in Orange, San Diego, Riverside and Los Angeles Counties. GSOB's main host is Oaks, hence the name. Interesting side note: On the Coast Live Oak, PSHB attacks occur in the armpit of the lateral branches.



Dr. Kabashima, the main speaker, spoke about his current research on PSHB & GSOB. The UCI campus and a few Orange County Parks are current research areas for both of tree insects. Unfortunately for the campus, UCI has been hit very hard by these invasive insects, which makes it a perfect research location. We were taken around the campus to see the tree damage from both of these insects. One of the biggest problem in dealing with this pest is there are NO GOVERNMENT FUNDS for help.

The Avocado Industry funded "some" research specific for avocados. To see this much damage on so many trees was quite dramatic. Knowing is half the battle; both of these pests have gone undetected for so long that many are beyond recovery.

Please take the time to educate yourself and others, as PSHB & GSOB, along with Drought will be seriously impacting our Urban and Forest Trees. If you would like more information about these pests, please check the links below.

<http://eskalenlab.ucr.edu/links.html>
<http://uci.edu/>



Notes from our September 2015 Meeting

Our September 2015 meeting was held at UCI. and Kenneth Graham.

Past Presidents in attendance were: Fred Roth and Paul Webb.

Prizes were donated by: Cy Carlberg Associates, Mauget, & Fred Roth

Raffle Winners: Ken Pfalzgraf, Ryan Hanley

Next Meeting: Please join us December 17th for our Annual Scholarship Awards & Officer Installation at Kellogg West in Pomona.

Visit our website for more information or to register. www.streettreeseinar.com

A New Study of Interest : Forest-Atmosphere BVOC Exchange

A new study assessing the influence of species diversity of canopy trees on the amount of ozone precursors a forest emits suggests that atmospheric chemistry models in use now may underestimate the importance of tree species mix and size to ozone pollution, says lead author Alexander Bryan, a postdoctoral fellow in the Northeast Climate Science Center at the University of Massachusetts Amherst.

Details appear in an early online edition of the journal, *Atmospheric Environment*. As Bryan explains, "Ozone pollution models do really well at predicting air quality in urban areas because that's where the problem started. Our atmospheric chemistry models have all been tested and optimized for urban air quality studies. But when we try to put those same models to the test in the forest regime without cars and factories, the models break down."

Current models usually represent the forest as a single dominant tree species or a blend of a few, so they may not capture the right mix of compounds emitted from trees and their oxidation products, he says. "The lesson from this study is that we may need to include more complexity in modeling," he says.

Even with this clue on how models might be improved, Bryan and colleagues note, the magnitude of natural volatile organic compound (VOC) emissions is still "highly uncertain due to the complexity of emissions and chemistry" in forested areas.

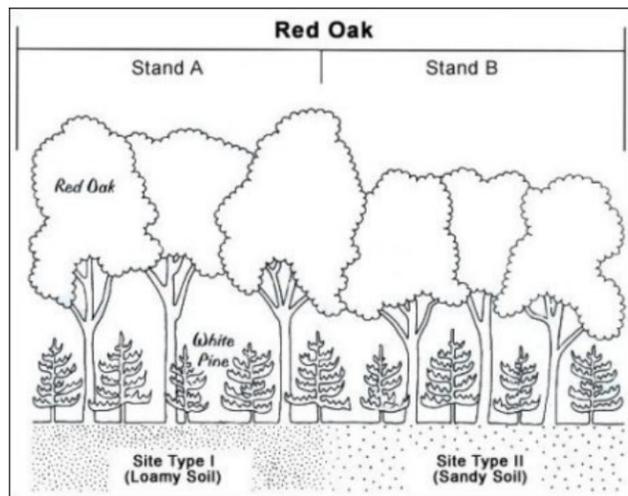
Forest trees naturally emit the biogenic VOCs monoterpenes and isoprene, two main pre-cursor ingre-

dients that combine in the atmosphere with nitric oxide (NO), which is emitted mainly by soils, to form the pollutant ozone. NO was once found in very low concentrations in the air until industrialization and human activities such as driving trucks, trains and cars changed atmospheric chemistry, Bryan says.

For this study, while he was a doctoral student of Allison Steiner, a biosphere-atmosphere interactions expert at the University of Michigan, Bryan used data collected by others on the ratio of tree species within a 197-foot (60-meter) circle at the university's biological station in the northern Lower Peninsula. He also measured the height of 248 broadleaf and needle-leaved trees in the circle.

Broadleaf trees such as aspen and oak emit isoprene as a function of light and temperature, while most needle-leaved trees emit monoterpenes as a function of temperature only, he points out. This is important because forest light varies due to shade from leaves and branches, "so the vertical location of broadleaves and needle-leaves likely matters for how much they emit," he explains.

Bryan and colleagues used tree height data to add vertical layering to their emissions model then conducted simulations using two different emissions schemes. One simulated a homogeneous mixture of broadleaf and needle-leaved trees, with vertically uniform emission potentials. The other case includes a heterogeneous or mixed canopy with emission potentials that varied with the proportion of foliage from each tree species at each model layer. Emission potentials are then converted to emission rates



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Friday
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8:30am — 3:15pm

The Future of California Landscapes

An Inland Urban Forest Council Workshop

Register at: <http://tinyurl.com/ofm8fc9>

For the entire agenda:
www.inlandurbanforestcouncil.org

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Forest-Atmosphere continued from page 2

the same way in both simulations using the same daily cycle of light and temperature, a control that allowed the researchers to isolate the effect of different leaf type distributions.

Bryan says, "We found that in modifying these models, it may be important to represent as realistically as possible how leaf type changes throughout the height of the forest. You need to know how many tall trees there are, how tall they are and what percent of the forest they represent, because these are the trees which receive the most light and thus have the greatest potential for emitting ozone precursors."

Overall, findings "highlight the importance of adequately representing complexities of forest canopy structure when simulating light-dependent biogenic VOC emissions and chemistry," the authors state.

They also simulated a homogeneous and heterogeneous canopy with aspen and birch removed to assess the impact of canopy heterogeneity on projections of biogenic VOC chemistry in late-successional forests. They found that VOC emissions declines from aspen loss were 10 percent greater when heterogeneity was considered.

Bryan says these findings are generalizable across the Northeast because forests there and in the Midwest are similarly a mix of broadleaf and northern needle-leaved trees growing in cooler latitudes. But he cautions that

while this model is more complex than its predecessors, it's not clear whether the added complexity improves the simulation of forest chemistry. "However, we now know that forest chemistry simulations are very sensitive to how forest structure is represented in models," he adds.

* Source: University of Massachusetts, Amherst via Science Daily.



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and Our Trees!
saveourwater.com/trees