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## AREA Members:

Happy new year! I am pleased to share this winter edition of the AREA newsletter with you, as it contains announcements for several exciting opportunities for researchers in arboriculture and urban forestry. Please note the April 1 deadlines for several funding opportunities from the TREE Fund on page 7. Also note the call for abstracts for conferences in Germany and Austria (see pages 5 and 8). In mid-April, the Midwest Urban Tree Care Forum will convene at the Morton Arboretum in the Chicago area; this is a great opportunity for students and young professionals to make connections with people in commercial, utility, municipal, and non-profit fields of the tree care industry (page 6). I also would like to draw your attention to the Undergraduate Arboriculture Fellowship at ISA (page 9). This is a competitive, paid fellowship open to juniors and seniors currently enrolled in a four-year program in arboriculture or urban forestry; the fellowship also provides transportation, lodging, and registration expenses for the 2012 ISA International Conference and Trade Show in Portland, Oregon, US, to be held August 11-15.

Speaking of the annual conference, AREA received a record number of abstract submissions for this year's ISA conference. The abstracts of the five students who were selected to receive AREA Student Travel Grants to the 2012 conference in Portland are printed on pages 3 and 4. Finally, I am pleased to share with AREA members an article sent to me by Dr. John Lloyd, formerly of Rainbow Treecare's Urban Forestry Institute in Minnetonka, Minnesota, which describes the four-year research collaboration between Rainbow Treecare Companies and high school biology students at Providence Academy. With the guidance of Dr. Lloyd and Providence biology teacher Dr. Yvonne Boldt, the Maple Tree Research Project has introduced high school students to the study of soils and root health in Autumn Blaze® Maples. I believe the story of this effective, hands-on classroom experience for young scientists will be of interest to many AREA members; further, three students from Providence Academy and Dr. Boldt will be presenting this project in the poster session at the ISA conference in Portland, so please be sure to visit their display and welcome them to ISA!

If you have any announcements or articles to submit for the quarterly AREA newsletter, please send them to me at: [rleibowitz@isa-arbor.com](mailto:rleibowitz@isa-arbor.com). Many thanks to all our contributors!



### AREA Executive Committee

- |                     |                  |
|---------------------|------------------|
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| Secretary/Treasurer | Eric Wiseman     |
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Best regards,

Rachel Leibowitz

## **The Maple Tree Research Project: Collaborative Effort Encourages Hands-On Research Opportunities for Students**

*By Sally Bell Pierce*

Creating a truly effective classroom experience is often a question of how to translate valuable textbook information and coursework into hands-on learning opportunities for young students. The Maple Tree Research Project, a collaborative effort between Providence Academy in Plymouth, Minnesota, and the Urban Forestry Institute of Rainbow Treecare Companies, is presenting students with a significant opportunity to utilize the knowledge they learn in class for practical, real-world scientific research.

The Maple Tree Research Project began when tree healthcare specialists from the Urban Forestry Institute of Rainbow Treecare Companies approached Providence Academy about working with students to research the effects of soil applications on organisms in the soil and on tree health and growth. Specifically, the research would be conducted on fifty-four young Autumn Blaze® Maple trees that had been planted on Academy property along Schmidt Lake Road in 2008. Providence Academy Biology instructor Dr. Yvonne Boldt, along with Dr. John Lloyd, Director of Research and Science for Rainbow Treecare Companies, developed a collaborative curriculum for Boldt's Advanced Biology course. The proposed framework of the collaboration was twofold: high school students would have the opportunity to volunteer for a 2-week summer initiative in which they would gather and analyze data from the Autumn Blaze Maples. Secondly, during the second semester of Dr. Boldt's Advanced Biology course (which focuses on plant biology, ecology and metagenomics), students would utilize the data compiled during the previous summer to compose a scientific paper about the project.

Both components of the project have been successfully implemented. The course is now bolstered by additional laboratory research, readings of Ph.D.-level journal publications, a series of lectures by Dr. Lloyd, and visits by professors with the Entomology Department at the University of Minnesota. By combining hands-on field data from a direct ecological source and the expertise of local scientists, the project is providing students with multiple real-world resources for completing their capstone assignment for the course. Additionally, students are identifying ecological developments taking place in their school's own front yard.

Since 2009, Providence Academy students working on the Maple Tree Research Project have been gathering and testing field data focusing specifically on the use of Prescription Organic Matter (or *POM*) as compared to more traditional applications of woodchips and fertilizer. Students are analyzing the effects of these applications on the Autumn Blaze Maples and the soils surrounding the trees. Developed by Rainbow Treecare, *POM* is used to stimulate soil microbial activity; the *POM* increases oxygen and nutrient levels within the soil in addition to increasing root health (and therefore encouraging tree growth), especially for young and newly-planted trees. The Urban Forestry Institute of Rainbow Treecare Companies has been conducting thorough research trials with the *POM* to determine how the product can be utilized to most effectively help trees within the Twin Cities and surrounding communities. For the past three years, the students at Providence Academy have been a valuable part of this important environmental research.

Now entering its fourth year, the Maple Tree Research Project is continuing to thrive. Boldt believes that at least part of the project's success can be attributed to the fact that students have a chance to make a "direct connection to real science" by participating in hands-on research for a company that will be utilizing that research to positively impact trees within the community. She notices a palpable motivation and excitement in her classroom once the students begin the research portion of the course. John Noble, a Providence Academy alumnus who participated in the program during his senior year at the Academy, noted that "there is something about hands-on experience that no textbook can replicate." Further, he notes that the Maple Tree Research Project "...has given us a rare opportunity to expand our learning outside of the classroom and study real-world environmental effects."

Noble's take on the project is precisely what Lloyd and Boldt were hoping for when they developed the course. As students who are interested in the field of biology embark upon further educational endeavors, the

project will have provided them with real-life research experience. In August of 2012, several students will have a chance to present their findings at the International Society of Arboriculture Annual Conference in Portland, Oregon. The students will create and present a poster about their research findings and have the opportunity to answer questions about the project. Dr. Lloyd and Dr. Boldt are hoping that as the project progresses, participating students will continue to share their findings about the Autumn Blaze Maples within the scientific community and submit their work for publication in scientific journals. Says Boldt, "Trees have a long life span and the potential for new avenues of research here are endless. My hope is that many generations of Providence Academy students will experience the excitement of doing novel research and be motivated to pursue careers in the biological sciences."

## **AREA 2012 Travel Grant Abstracts**

Congratulations to the following five students, who have been awarded 2012 AREA Student Travel Grants to attend the ISA International Conference and Trade Show in Portland, Oregon, US. Please be sure to attend the AREA session on Wednesday, August 15, to hear their research presentations.

### **DAVID CALLOW**

*University of Melbourne (Australia)*

*Melbourne School of Land and Environment*

#### ***An Assessment of Techniques to Improve the Vitality of Drought Stressed Mature Urban Trees***

This study evaluates several techniques to improve the vitality of drought stressed urban trees across four sites within the City of Melbourne, Australia. Five treatments were trialed on mature elms (*Ulmus* spp.) or London Planes (*Platanus x acerifolia*). A combination of a soil amelioration treatment and Paclobutrazol treatment resulted in statistically significant reductions in drought stress when measured as pre-dawn leaf water potential. A relationship was identified between leaf water potential and a visual vitality index and between leaf water potential and elm bark chlorophyll fluorescence. Three of the treatments also resulted in significant changes to leaf chlorophyll  $F_o$  values.

### **YUJUAN CHEN**

*Virginia Tech*

*Department of Forest Resources & Environmental Conservation*

#### ***The Effects of Urban Soil Rehabilitation on Urban Tree Growth***

Land development results in unfavorable soil conditions for tree growth, such as compaction and lack of organic matter. We present current results from a long-term study of the effects of soil rehabilitation on tree growth and the development of a healthy soil profile over time. Results include tree height, DBH and canopy development, minirhizotron root images to demonstrate root exploration of the soil profile, and soil physical and biological characteristics with an emphasis on soil carbon sequestration and microbial biomass. Implications for urban ecosystems and policy are discussed.

### **THOMAS MARTIN**

*Virginia Tech*

*Department of Forest Resources & Environmental Conservation*

#### ***Developing Strategies to Protect and Utilize Existing Trees in New Low Impact Development Stormwater Mitigation Sites***

Trees are theoretically an important component of low impact development (LID) and stormwater mitigation practices. However urban foresters and arborists are reporting that large valuable trees are often removed to

make way for bio-engineered stormwater management structures. Low Impact Development sites often focus on herbaceous swales to mediate stormwater issues rather than utilize the benefits that trees could provide in these systems. We will present a targeted literature review, a case-study, and a stakeholder survey with the goal of developing strategies to help resolve conflicts between existing trees and LID sites.

### **ALISON STOVEN O'CONNOR**

*Colorado State University*

*Department of Horticulture and Landscape Architecture*

#### ***Nursery Tree Production and Transplant Success of *Pyrus calleryana* 'Glen's Form' (Chanticleer®) Influenced by Container Types and Overwintering Treatments***

Roots in black plastic containers, commonly used in the industry, can be injured by wide diurnal temperature fluctuations that occur during the growing season. Root injury sustained during production may negatively affect tree health when planted in landscapes. Research at Colorado State University is using *Pyrus calleryana* 'Glen's Form' (Chanticleer®) to compare nursery production and landscape tree establishment using two fabric containers (Root Pouch®, Avera & Associates and Smart Pot®, High Caliper Growing-Root Control, Inc.) with plastic. Overwintering treatments are also being examined—consolidated pot-to-pot in blocks or “lined out” in rows. Ultimately the goal is to promote transplant success.

### **LARA ROMAN**

*University of California, Berkeley*

*College of Natural Resources, Department of Environmental Science, Policy, and Management*

#### ***Monitoring mortality in the Sacramento Shade Tree Program***

Realizing the benefits of urban tree planting programs depends on tree survival. We assessed tree mortality, growth and residential maintenance practices during the 5-year establishment period in the Sacramento Shade Tree Program. We annually monitored a cohort of trees that were distributed in 2007. In 2008, 77% of trees were planted and alive, 10% died after planting, and 13% were never planted. Annual survival rates were higher in subsequent years. The economic recession impacted our study, as Sacramento had high rates of home foreclosures. This study demonstrates the need for tree monitoring to support the assumptions used in cost-benefit models.

## **Learn More About Tree Risk Assessment**



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## Welcome to the First Conference “Forests for People” Alpbach, Tyrol/Austria May 22 - 24, 2012

ABSTRACT SUBMISSION DEADLINE HAS BEEN EXTENDED TO FEBRUARY 10, 2012

The conference is one important part of the new [IUFRO strategy](#) based on six thematic areas. The aim of this conference is to build a systematic body of knowledge about “forest for people” and its various facets, including possible future trends and challenges.

This conference and the following up process want to integrate not only the knowledge across all divisions but include the knowledge outside IUFRO.

The main themes of the conference are:

- **Livelihoods** - issues of agro-forestry, food security, fuels, poverty alleviation, and human dislocation
- **Health, Recreation and Tourism** - issues of human health, recreation and nature-based tourism
- **Urban and Rural Landscapes** - issues of ecosystem services, economic benefit and development, spaces and places for living
- **Culture and Education** - issues of perceptions of forests, spiritual character, education, historical tradition and practice, communication and governance

The conference is addressed to forest managers, scientists, science administrators, policy makers and the interested public audience.

The conference is organized by the University of Natural Resources and Life Sciences (BOKU) Vienna, Department of Landscape, Spatial and Infrastructure Sciences.

For more information about the Conference “Forests for People,” please contact:

Institute of Landscape Development, Recreation and Conservation  
Planning  
Univ. Prof. Dr. Ulrike Pröbstl  
Peter-Jordanstr.65, A-1180 Wien  
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ffp2012@boku.ac.at



## Midwest Urban Tree Care Forum

*April 12-13, 2012*

Since its inception in 2003, the Midwest Urban Tree Care Forum (MUTCF) has been providing students a unique opportunity to engage with professionals and other students in of urban forestry, arboriculture, horticulture, and other green industries and professions. MUTCF is coordinated through volunteer efforts of many professional and the Illinois Arborist Association.

The goal of MUTCF is to present the many facets of the green industry, urban forestry and tree care by touring sites, projects, and programs. Presentations span commercial, municipal, utility, and non-profit fields of our industry. The event also includes a career fair, dinner, raffle, service project, and many opportunities to interact with industry professionals. Many summer jobs and permanent careers have been secured at during the MUTCF programs. We strongly encourage that attending students bring along a resume.

MUTCF 2012 is scheduled for April 12-13, 2012.

### **Friday, April 13, 2012:**

- Tour of downtown Chicago, IL
- Formal dinner
- Free raffle

### **Career fair**

- Saturday, April 14, 2012:
- Tour of north suburban Chicago, IL
- Hands-on service project

MUTCF registration includes all meals (Friday breakfast, lunch and dinner and Saturday breakfast and lunch) and events. Rates for the 2012 MUTCF are: \$50 for International Society of Arboriculture Student Members or \$90, which includes your ISA Student Membership (\$45 value).

Please go to [www.midwesturbantreecareforum.com](http://www.midwesturbantreecareforum.com) to register and find out more about MUTCF.

Specific questions can be directed to [bscharenbroch@mortonarb.org](mailto:bscharenbroch@mortonarb.org).



MUTCF students at the dinner and Career Fair.



MUTCF students learning and practicing tree care in downtown Chicago, IL.



Applications are due April 1

For the Tree Fund's

Robert Felix Memorial Scholarship

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Hyland R. Johns Research Grant Program

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Arboriculture Education Grant Program

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Ohio Chapter ISA Education Grant Program **(new!)**

Applications are available now at [www.treefund.org](http://www.treefund.org)

The Robert Felix Memorial Scholarship (\$3,000) is a non-renewable scholarship awarded to undergraduate students enrolled in accredited 2- and 4-year programs in arboriculture and urban forestry. [Apply online.](#)

The Hyland R. Johns Research Grant Program provides up to \$25,000 over a 3-5 year period to support research that directly affects the work of tree care industry professionals. [Apply online.](#)

The Arboriculture Education Grant Program awards up to \$5,000 to support arboriculture education programs and materials for youth in grades K-12. [Apply online.](#)

The Ohio Chapter ISA Education Grant Program provides \$5,000 to support arboriculture education programs and projects in Ohio which increase public awareness and knowledge of arboriculture and urban forestry. 503(c)(3) organizations including but not limited to arboretums, public gardens, high schools, vocational schools and 2- and 4-year colleges targeting an audience 16 years of age or older are eligible to apply. [Apply online.](#)

[www.treefund.org](http://www.treefund.org)

630-369-8300



## Attend the 15<sup>th</sup> European Forum on Urban Forestry Conference! Urban Forests - Ecosystem Services and Sustainable Maintenance

### Conference aim

The 15th EFUF Conference will highlight the crucial role played by urban forests in delivering essential ecosystem services for people in urban landscapes, especially in relation to the problem of how to maintain new large-scale urban forests and urban green spaces with declining public sector budgets.

### Programme:

The conference programme will consist of

- invited keynote presentations
- contributed sessions and posters
- field trips and exercises
- social events
- post-conference excursion

### Website

Please visit the conference website for more information about venue, programme, abstract submission, registration, fees, travel, accommodation, etc.

[www.ufz.de/efuf2012](http://www.ufz.de/efuf2012)

### Conference secretary

For personal enquiry, contact the conference secretary via:

**+49 341 235 2264 or [efuf2012@fu-confirm.de](mailto:efuf2012@fu-confirm.de)**

### Call for abstracts

Submissions are invited on the conference main theme and also on following topics:

1. Urban forestry and green space management under societal and climate change conditions (includes forests, parks, gardens, and street trees)
2. Management of old urban forests, parks and cemeteries
3. Planting new forests in urban areas
4. New strategies for large scale urban green space management
5. Revitalization of ecosystem services on floodplains, derelict land and traffic corridors, military areas, etc.
6. Response strategies to new demands of providing healthy living and working conditions
7. Revitalization and management of urban waterways

**Submit your abstract of about 400 words**

**not later than February 29, 2012**

**to [efuf2012@fu-confirm.de](mailto:efuf2012@fu-confirm.de)**

**Conference hosts**



HELMHOLTZ  
CENTRE FOR  
ENVIRONMENTAL  
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**City of Leipzig**



The Forum is associated with the  
**International Union of Forest  
Research Organisations' (IUFRO)**  
urban forestry group.

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## 2012 ISA Student Fellowship

Each year ISA provides an invaluable opportunity for students to work with and learn from leaders in arboricultural research and education.

### Who should apply?

- students who excel in their academic studies
- students interested in attaining a technical position in commercial, utility, or municipal arboriculture
- students interested in continuing their education at the graduate level
- anyone who has a passion for arboriculture and urban forestry and would like to instill that drive in others

### Fellowship Includes

- paid stipend for a minimum of 10 weeks
- paid travel, lodging, registration, and meals at the 2012 ISA Annual Conference in Portland, OR

### How would you contribute?

- work with ISA staff assisting the Educational Goods and Services team in the development of books, articles, videos, podcasts, interactive training media, and other materials
- assist ISA staff at the annual conference

### Eligibility Requirements

The applicant must be:

- an undergraduate student majoring in arboriculture, horticulture, urban forestry, or a similar discipline
- attending a four-year program with a minimum of two years completed or nearing completion of a two-year program

*Deadline for applications: March 15, 2012*

More information and application requirements at:

<http://www.isa-arbor.com/students/awardsandscholarships/index.aspx>



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