The Morris Arboretum of the University of Pennsylvania is an historic public garden and educational institution. It promotes an understanding of the relationship between plants, people, and place through programs that integrate science, art, and the humanities. The Arboretum conducts four major activities: education, research, outreach, and horticultural display. As the official Arboretum of the Commonwealth of Pennsylvania, the Morris Arboretum of the University of Pennsylvania provides research and outreach services to state agencies, community institutions and to citizens of Pennsylvania and beyond.

Education: Liza Hawley, efhawley@upenn.edu or (215) 247-5777 ext 128

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Grist Mill: Bob Gutowski, gutowski@upenn.edu or 215-247-5777 ext 132

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Alessandra Rella, Editor
Contributors: Deitra Arena, Joan Kober, and Joyce Munro.
Questions, comments, and submissions can be directed to the editor at edintern@morrisarboretum.org or mailed to the Arboretum Attn: Education Intern.

Photos: Alessandra Rella, unless otherwise stated
Letter from the Editor

Hello to the Morris Arboretum community!

As I arrive to The Arboretum every morning for this new and exciting job of mine, I am struck by the surrounding beauty: the sea of green glistening in the morning light, those lovely scents from the flowers and trees that surprise you as you walk by, and the smiling faces of all the volunteers and staff members who have so kindly welcomed me and my fellow interns. How lucky we are to be working in such a beautiful environment with such lovely people!

I am very much looking forward to my upcoming year here and cannot wait to see all that is in store. I also look forward to continue meeting everyone, so please do stop by to say hello!

I would also like to send out a huge thank you to Emily Clark, the previous Education Intern. She left me with a plethora of information to get me started, making me feel ready to go and a little less lost on my first day! I am certain that she will be missed at The Arboretum, but I am also certain that she is doing wonderfully at her new job at the Air and Space Museum.

Wishing you all a very happy July,
Alessandra Rella
The McLean Contributionship
Endowed Education Intern
Notes from the Guides Chair

According to a recent Pennsylvania Department of Conservation and Natural Resources (DCNR) blog post, our climate is changing at such a rapid rate – several degrees per century due to human activity – that some Pennsylvania tree species will not be able to survive. Northern species like mountain maple, American beech, balsam fir, paper birch and quaking aspen are particularly endangered. Our climate may be warming too quickly for these species to adapt. This recent blog post reiterates some of the warnings issued in a 2018 DCNR climate change adaptation plan that was the result of a collaboration with 80 DCNR staff working with the Northern Institute of Applied Climate Science.

The blog continues by pointing out that wetter conditions may also be negatively affecting our trees. In 2018 state records were set for the number of days of rain and total annual rainfall. Since 1991, heavy rain events have increased more than 30% as compared to the 1901-1960 period. Sadly, many Pennsylvania trees simply do not thrive in continually wet conditions, Consequently, these trees may suffer serious declines over an extended period of time.

The American mountain ash is in double trouble due to its preference for northern and upland sites. It, therefore, makes little sense to continue to plant this species. A better strategy for Pennsylvania would be to plant change-resilient trees to replace those that are lost. Good choices would be trees that can thrive in wetter soil like sycamores, hackberries, boxelders and eastern redbuds. Trees that do well in warmer climates, but in well drained areas should also be considered. These include pin oaks, black oaks, shagbark hickories and mockernut hickories. Slippery elms, black gums, short leaf pines and American hop-hornbeams are also likely to be climate change resilient.

Philadelphia’s tree population is particularly threatened as the city is warming up and getting wetter according to a separate report issued by the Urban Forestry Climate Change Response Network. Accordingly, the black cherry, eastern white pine, sweet birch and white ash are likely to decline. Northern catalpa, Japanese maple, gray birch and American beech are also at moderate or high risk.

Climate change is not total doomsday for PA trees, but new strategies on tree planting will be required. Thought will need to be given to choosing trees that are fungal and insect resistant as southern pests are moving north at an alarming rate. The DCNR's blog post continues by stating, “Wise choices for replacement could be part of the solution to ensure that our forests remain healthy, viable and productive”.

Sources: DCNR Blog Post, “Selecting Trees for Pennsylvania's Changing Climate”, May 1, 2019 and “PA Trees May Not Survive Climate Change”, Philadelphia Inquirer, June 3, 2019

Have a wonderful summer of rest, travel and enjoyment of nature both in and outside of our beautiful Arboretum!

Joan Kober
Chair of the Guides
Meet the New Interns

Dominique Groffman
*The Eli Kirk Price Endowed Flora of Pennsylvania Intern*

Dominique is from Minden, Nevada, where she grew up hiking, making ceramics and raising sheep for market. She graduated from Columbia University with a B.A. in Ecology, Evolution, and Environmental Biology, emphasizing in botany. She completed her senior thesis, “Evolution of the SPOROCYTELESS (SPL) Gene Lineage: Reproductive Development of Early Land Plant Sporangia” and is awaiting publication. Dominique was the Program Director of Columbia’s radio station, WKCR-FM where she most recently hosted “Amazing Grace”, a weekly Sunday gospel roots program. Outside of school, she was a studio apprentice at Supermud Pottery Studio, an archiver at Columbia’s Media Center, and an intern at Space Gallery in Portland, Maine. Dominique enjoys biking in the city, bookbinding, and being

Luke Hearon
*The John J. Willaman & Martha Haas Valentine Endowed Plant Protection Intern*

Luke is from Columbus, Ohio and recently graduated from the Ohio State University. There he studied entomology, with a minor in evolution and ecology. Luke has been involved in mission work and served on a worship team at school. Before starting at Morris Arboretum, Luke worked at a garden center in Delaware, Ohio, called “A Proper Garden.” While there, Luke did landscaping work and some garden design (including a butterfly and moth garden, complete with educational signage, that he is quite proud of! Ask him about it next time you see him). Luke considers himself an amateur bread baker, and fills his free time with lots of acoustic guitar playing and rollerblading.

Alex Gunstenen
*The Walter W. Root Endowed Arborist Intern*

Alex recently graduated from Mercer County Community College near his hometown of Princeton, New Jersey. While there, Alex was involved in the school’s Horticulture Club. Before starting his internship at Morris Arboretum, Alex worked for Kale’s Nursery and Landscape Service, a small garden center in Princeton. Alex also worked for his local Starbucks. While at home, Alex enjoys taking care of the woodlands on his parent’s property, which primarily involves removing invasive species and replacing them with New Jersey native shrubs and trees. Alex also enjoys biking, and went on an incredible cross country bike ride, which you must ask him about the next time you see him!
Meet the New Interns

Caitlyn Rodriguez
The Alice & J. Liddon Pennock, Jr. Endowed Horticulture Intern

Caitlyn grew up in Eastford, Connecticut and graduated this past spring from the University of Connecticut. While there she studied Sustainable Plant and Soil Science, with a concentration in environmental horticulture. This is Caitlyn’s first time living outside of Connecticut, so make sure to give her a warm welcome to Pennsylvania the next time that you see her! During her time at the University of Connecticut, Caitlyn was a member of The Rolling Tones a cappella group and also worked at the UConn Dairy Bar (where she got unlimited access to ice cream!) Caitlyn also worked at the Wickham Park in Manchester, Connecticut, where she served as the horticulture intern. Caitlyn enjoys singing, playing music, gardening, and water color painting.

Eloise Gayer
The Charles S. Holman Endowed Rose & Flower Garden Intern

Hiya! My name is Eloise and I am a former Rutgers student raised in New Jersey. I graduated in May of 2018 and have a BA in English literature and cognitive science, with a concentration in creative writing. I discovered that my love of plants, nature and the outdoors could become an actual career (who knew?) in the second-to-last semester of my time at Rutgers. So, I am very excited to be here to make up for lost time in my horticultural education. Last year I spent a fabulous summer and fall at Rutgers Gardens that inspired me to continue work in the public garden sector. Since then I’ve been doing freelance landscaping, volunteering at Rutgers and other gardens in North Jersey, and cultivating an alarming collection of tropical plants and succulents. In what little spare time I have, I enjoy reading and writing (ask me about scifi), hiking, gardening, and looking for birds and frogs.

Nate is from Fairfield, Connecticut, and just graduated from Cornell University with a B.S. in Environmental and Sustainability Sciences. During his last year at Cornell, Nate worked hard to complete his thesis, entitled “Bee Subsistence on Cannabis sativa Pollen: A Landscape Study of Industrial Hemp.” So if you find yourself with a question about industrial hemp or pollinators, Nate is the person to ask! At Cornell, Nate also assisted with research on bees in the Poveda Agroecology Lab and worked for the Cornell Botanic Gardens where he served as an intern in the Mundy Wildflower Garden and the Cornell Natural Areas. Nate enjoys hiking, bird-watching, watching movies, long-boarding, exploring new places, and listening to music.

Nathaniel Flicker
The Hay Honey Farm Endowed Natural Lands Intern


Meet the New Interns

Alessandra Rella

The McLean Contributionship Endowed Education Intern

Alessandra is a proud Pittsburgh-er (let's go Bucs!), and a recent graduate of Franklin and Marshall College where she majored in anthropology and environmental studies, and minored in Italian. Through her studies, Alessandra explored ideas surrounding sense of place and the creation of home in varying landscapes. At F&M, Alessandra was the manager of the student-run Fair Trade Cafe, worked for the Center for the Sustainable Environment, and was a member of the school's orchestra where she played the clarinet. Alessandra also loves working with kids, and was a camp counselor for many years, working mainly with the 3-5 year-olds. Alessandra enjoys traveling, and has had the opportunity to go on many adventures, taking her from Europe, to China, to the middle of the Pacific Ocean! In her free time, Alessandra enjoys doing yoga, gardening, hiking and biking, knitting, and baking.

Eliza Nobles

The Martha S. Miller Endowed Urban Forestry Intern

Eliza grew up in Chester County, Pennsylvania, and just graduated from Drexel University and holds a self-directed B.S. in urban ecology, with a minor in Science, Technology, and Society (STS). She designed this curriculum to holistically address urban environmental problems through research and design. Throughout her time at Drexel, Eliza conducted environmental research that focused on vacant lot ecology and environmental justice. Eliza also recently co-founded an organization called ‘Philly Urban Ecologists,’ which held a native plant workshop and planted a native plant garden in West Philly. Eliza has also volunteered at LandHealth Institute and The Franklin Institute. In her free time, Eliza enjoys writing, drawing, and urban exploring.

Emily Conn

The Martha J. Wallace Endowed Plant Propagation Intern

Emily is from Evansville, Wisconsin, and graduated from the Commonwealth Honors College of The University of Massachusetts Amherst in 2017. There they completed a double major in Anthropology and Latin American Studies, with a certificate in Native American/Indigenous Studies. Emily has done a lot of work in grassroots community organizing for political and social events, and most of their work experience has been with co-ops and small businesses. They have also done a fair bit of construction work. Emily loves to garden, hike, explore the city, and participate in plant swaps. They also write novels and makes organic herbal incenses, infusions and extracts.
Volunteer Workshops and Opportunities

Saturday Morning Live Tour: Hidden Gems
Saturday, July 7th | 11:00 a.m. | Widener Terrace

This month’s featured tour includes garden gems that are off the beaten path or hidden to most visitors, plus a few that are “hidden” in plain view.

First Wednesday Workshops
Wednesday, July 3rd | 12:30 p.m. | Grist Hill

Mill Tour with Ted Bell. Please note the different than usual meeting location.

Meet Our New Education Intern
Thursday, July 18th | 11:30 a.m. | Upper Gallery

Ahoy! Come join Alessandra and hear about the adventures she had, and research she did, while out sailing in the Pacific! Alessandra will be sharing about her experience with the SEA Semester program, where she was a full crew member on the Robert C. Seamans for two months.

New This Season:

Summer Evening Water Features Tour
Wednesday, July 10th | 6:30 p.m. | Widener Terrace

Summer evening tours, featuring a different tour the second Wednesday of each month! This month, explore the beauty of fountains and waterfalls and discuss the evolution of the use of water in gardens. Enjoy the visual impact and calming effect of these delightful garden features.
**Sign-Up for the Woody Plant Conference**

**Friday, July 19th | 8:30 a.m. - 4:30 p.m. | Lang Performing Arts Center Swarthmore College, Swarthmore, Pennsylvania**

Mark your calendars for the 21st annual Woody Plant Conference at Swarthmore College. This popular day-long conference focuses on great woody plants for the Mid-Atlantic States and how to use them in the landscape. The conference is geared to landscape professionals and avid amateur gardeners.

For more information and registration details, visit [www.woodyplantconference.org](http://www.woodyplantconference.org) or check out our brochure.

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**Meet the Arboretum’s New Executive Director**

**Bill Cullina**

Please join us on **Wednesday, August 14th at noon in the Upper Gallery of the Widener Visitor Center** for an informal question and answer session with Bill Cullina, the Arboretum’s new F. Otto Haas Executive Director. Please bring your lunch and your questions. Bill is looking forward to meeting you.

Bill was President and CEO of the Coastal Maine Botanical Garden from 2011 to 2019 and is well known as an author and lecturer. He possesses extensive experience in public garden leadership, fundraising, education, and horticulture.
Volunteers who have worked over 30 hours during the past year may take Morris Arboretum classes at a discounted price. Please refer to the Volunteer Price Spreadsheet in the Education Office for a complete list of volunteer class pricing. To sign up for a class please call (215) 247-5777 ext. 125.

Yoga in the Garden: Enchanted Evenings
Jennifer Schelter, Artist, Founder, The Radiant Retreat
Tuesday, July 9, 16, 23, Aug 6 | 7:00 - 8:15 p.m.

The incredible beauty of summer nights at the Morris Arboretum provides the backdrop for this unique opportunity to study inspirational Vinyasa (flow-style) yoga led by Jennifer Schelter, one of Philadelphia’s premier yoga teachers. All are welcome, including beginners. Please bring a yoga mat and wear comfortable clothes.

Lecture: Public Gardens in Today’s World
William Cullina, F. Otto Haas Executive Director of Morris Arboretum
Wednesday, October 23 | 2:00 pm | Ambler Theater: 108 E. Butler Avenue, Ambler, Pennsylvania

In this lecture and public reception, Bill Cullina will discuss the increasingly critical role that public gardens play in American society. He will consider biophilia: the affinity of human beings for other life forms, and reflect on the ways that gardens provide accessibility, improve physical and mental health, engage in critical research, and provide space for quiet joy and transcendence.

Announcing Volunteer Book Club

Volunteer Book Club
Open to all Arboretum volunteers and staff!

First Friday of every month, September-December | 1:00 p.m. | Gates Hall Conference Room
Twilight and Peonies

Here are some memories from May’s Twilight and Peonies celebration, one of Education’s annual events to recognize our volunteers!

Photos by Emily Clark
From the Archives
by Joyce H. Munro

Five Things You Might Not Know About ...

The Fernery

1. Completed in 1899, the Fernery cost $8,000 to construct and equip. Hitchings & Company, horticultural builders in New York, supplied the structure; the W. & J. Birkenhead Nursery in Manchester, England supplied the ferns and selaginellas.

2. The budget for restoring the Fernery in 1993 was $1.5 million.

3. In addition to supplying ferns, John Birkenhead, co-owner of the nursery, advised prospective fernery owners on construction of the interior:
   “Where it is possible to go down into the ground, the effect will be much finer than when the rockwork is all above the ground level. The beauty of Ferns is seen to best advantage when looked down upon. The walks should undulate and wind to and fro…” (Ferns and Fern Culture, 1892).

4. John Morris had a role in designing the Fernery, as he did with other garden features at Compton. As plans for the interior were being finalized, he sent Birkenhead sketches and notes of changes, including the addition of a stream of water that would “fall in a series of small cascades, dropping into a pool below.”

5. The two stone pillars at the Fernery entrance were designed to camouflage the boiler chimney and the ventilation shaft.

Entrance into Fernery. The Fernery has a straight-lined roof.

Notes: In 1957, a stabilization project replaced the roof and changed the shape from round to angular/straight line.

See more photographs of the Fernery here
Garden Highlights

**Salvia verticillata**
- lilac sage
- Rose Garden

**Asclepias tuberosa**
- butterfly weed
- Between Swan Pond and Intern House

**Rosa ‘Sea Foam’**
- Sea Foam rose
- Rose Garden

**Geranium ‘Rozanne’**
- Rozanne geranium
- Rose Garden
### Upcoming Events

**July 2019**

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<td>Grist Mill Demonstration</td>
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### Weekly Volunteer Events

**Wednesdays:** Horticulture Volunteers 8:30 am - 12 noon, Garden stays open until 8 p.m.

**Saturdays and Sundays:** Regular Tour 2:00 - 3:00 pm, Garden opens at 8 a.m.
## Upcoming Events

### August 2019

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