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Friends of
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flora



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flora

Flora editor: Orla Swift

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Cover photo: Dutch iris (*Iris hollandica* "Telstar"). Photo by Rick Fisher.

Centerfold: Bride and groom with cloud stem bamboo (*Phyllostachys nigra* "Bory"). Photo by Riley MacLean.

Additional photos by: Robert Ayers, Stefan Bloodworth, Lindsey Fleetwood, Geri Glavis, Beth Hall, Jason Holmes, Wendell Hull, Paul D. Jones, Robin Lin Photography, Luster Studios, Bobby Mottern, Mike Owens, Michelle Rawlins, Joe Rone, Orla Swift, Charles Twine, Karen Webbink, Erika Zambello, Les Todd and Megan Morr/Duke Photography, and from Duke University Archives, the Ciompi Quartet and Jane and Nelson Hsu.

Above (L-R): Chinese peony, American beautyberry (*Callicarpa americana*) and Chinese wisteria (*Wisteria sinensis*)

CONNECT ONLINE:



dear friends,



2013 was a year of honors for Duke Gardens. It was named one of the top 10 public gardens in the country by tripadvisor.com and received Horticulture Magazine's Award for Garden Excellence. 2014 is year for celebrations, as we mark the 75th anniversary of the dedication, on April 21, 1939, of what was then known as the Sarah P. Duke Memorial Gardens.

This anniversary celebration began last fall and culminates with a gala evening on May 2 that begins, as it did in 1939, on the Terraces. Honorary alumni chairs from every decade of the Gardens' existence—from Lib Conner (W'39) to Allison Vernerey (T'13)—will be on hand to help us celebrate our roots and launch our next 75 years of growth and beauty in the heart of the Duke campus. I look forward to seeing many of you there.

In the following pages you will read about a variety of projects in Duke Gardens. Director of horticulture Bobby Mottern discusses how we will renovate our wisteria-covered Pergola and rejuvenate its historic but aged vines this summer. Paul J. Kramer plant collections manager Beth Hall writes about her work to digitally map our collections. Director of education and public programs Jan Little describes our expanding public programs and an exciting national project in which we all can become citizen scientists. And Asiatic Arboretum curator Paul Jones writes about the recent gift of a significant collection of Chinese tree peonies, most timely as we begin the conceptual planning phase for our new Chinese Garden.

I hope you enjoy these developments and all the news and notes about some of our other programs and the staff, volunteers and Duke students who work with us in this special place that one longtime friend has described as "just heaven."

Please visit soon and often. And, as always, thank you for your support of Duke Gardens and Duke University.

Sincerely,

William M. LeFevre
Executive Director

Celebrating 75 years

As we prepare to celebrate the 75th anniversary of the dedication of Sarah P. Duke Gardens, we look back in awe at the decades of commitment, vision and inspiration that have helped the Gardens grow to the nationally acclaimed botanic garden that it is today. And we look forward with anticipation to the exciting developments yet to come.

We thank all who have contributed to the success and beauty of Duke Gardens. And we look forward to gathering with Gardens supporters and honorary chairpersons from each decade at our gala celebration on May 2.

All year and in the years ahead, we hope you'll join us in celebrating our roots and growing a bountiful future.

Interested in attending the 75th Anniversary Gala on May 2, with cocktails, a buffet dinner and dancing? We'd love to hear from you. Please email millicent.snow@duke.edu or call 919-668-1711 for more information.



— 1934 —

We have Sarah P. Duke to thank for generously agreeing in 1934 to fund a public garden in her name. See more photos and landmark moments in Sarah P. Duke Gardens' history on the following pages.

Celebrating 75 years TIMELINE

← 1935 →



EARLY 1930s: Idea for garden proposed by Dr. Frederic Hanes, president of the American Iris Society and a faculty member of the Duke Medical School.

1934: Hanes secures founding gift from Sarah P. Duke, widow of Duke University co-founder, Benjamin N. Duke.

1935: First garden of irises and other perennials planted in area that is now the South Lawn.

1936: Plantings suffer from flooding and disease. Sarah P. Duke dies. Hanes works with Mary Duke Biddle to establish a new garden on higher ground in memory of her mother.

1937-38: The Terraces and Pergola constructed.

1939: Official dedication of Sarah P. Duke Gardens on April 21, 1939, during centennial celebration of Duke University.

1945: Gardens placed under control of the Duke Botany Department. Dr. Paul J. Kramer named first director.

The role that the Duke Gardens played was intrinsic to our lives as undergraduates. Even though it was smaller and less developed in the 1960s, the Gardens became the location for both public events and private ones. The glorious distractions that Mother Nature placed before us impeded much serious concentration on our schoolwork, but the Gardens was always a place to which a student could retreat for solace and renewal.

During the spring of our senior year, my roommates and I spontaneously hosted a bridal shower for a classmate under one of the blooming crabapple trees. I think back about that day and the springboard the Gardens provided for all of us.

Ruth Ross (W'68)

← 1939 →



← 1968 →



The Gardens are truly special and stand as a refuge among the busy Duke campus. They are steps away from West Campus but a world apart. Whenever I needed a break from campus activity, I could count on the Gardens to offer a place for recreation and recuperation.

One of my favorite spots has always been the Blomquist Pavilion, tucked away in a corner surrounded by water and trees. I found the calmness of this spot encouraged contemplation and reflection, which allowed me to organize my thoughts and decompress when I needed to escape.

Paschal Brooks (T'01)

1959: First master plan for the Gardens drawn by William B.S. Leong.

1959: Trustees of Duke University act to protect the present 55-acre boundary of the Gardens.

1968: Dedication of H.L. Blomquist Garden of Native Plants, named for Hugo L. Blomquist, the first chair of Duke University's Department of Botany and an authority on Southeastern flora.



← 1998 →

1975: Richard Fillmore named Duke Gardens' second director.

1978: Dr. William Louis Culberson named Duke Gardens' third director.

1984: Asiatic Arboretum established.

1996: Campaign begins to build the Center for Duke Gardens, later named the Doris Duke Center.

1998: Dr. Culberson retires. William Louis Culberson Asiatic Arboretum named in his honor.

1998: Dr. Richard A. White named Duke Gardens' fourth director.

2001: Doris Duke Center and Gardens dedicated.

Celebrating 75 years TIMELINE

— 2005 —



No matter how much time passes ... I always feel connected to Duke. I love visiting my favorite landmarks, especially the Duke Gardens, where I used to go when I was stressed out before exams and needed to clear my head. I went yesterday, because I wanted to make sure I was centered before giving this speech.

Melinda Gates (T'86, B'87)

2005: Memorial Garden established.

2007: William M. LeFevre named Duke Gardens' fifth (and first full-time) director.

2007: Dedication of the Durham/Toyama Sister Cities Pavilion in the Asiatic Arboretum.

2009: Duke Gardens named one of the South's best public gardens by Southern Living magazine.

2009: Dedication of the Bartter Family Terrace House during the 75th anniversary celebration of the 1934 founding gift.

2010: Dedication of the Frances P. Rollins Overlook, a scenic gathering spot near the original Flowers Drive entrance to Duke Gardens.

2010: Restoration of the lower terraces fishpool and waterfall.

My family has always had a deep passion for gardens and flowers. My parents had a beautiful garden, as do my wife and I. And both I and my daughter Bryndl (T'11) enjoyed spending time in Duke Gardens during our years at Duke.

I was pleased to be a part of the 2009 celebration of the 75th anniversary of Sarah P. Duke's founding gift that established Duke Gardens, and to have been honored with the Bartter Family Terrace House dedication ceremony at that gala. I look forward to serving as an honorary chair of the May 2 anniversary celebration, and to spending time with many others who share an enduring love and appreciation for Duke Gardens.

Brit Bartter (T'72)

— 2011 —



2011: Century-old Roney Fountain moved from East Campus to Duke Gardens and restored using the original molds.

2011: Reconstruction of the Main Entry Allée.

2011: Dedication of the Page-Rollins White Garden.

2011: Dedication of the Walker Dillard Kirby Perennial Allée.

2011: Dedication of the East/West Garden Walk.

2012: Dedication of the Charlotte Brody Discovery Garden, an organic, sustainable food garden and pilot project for the national Sustainable Sites Initiative.

2013: Duke Gardens receives the 2013 Horticulture Magazine Award for Garden Excellence from the American Public Gardens Association

2013: Duke Gardens named among the nation's top 10 public gardens by tripadvisor.com.

2014: Celebration of the 75th anniversary of the Gardens' dedication on May 2. Alumni chairs from each decade of the Gardens' existence will be honored.

— 2012 —



I've loved these Gardens since I arrived as a Duke freshman in September 1954, when the main entrance was behind Allen Building, the Pergola was the centerpiece and fraternity guys were thrown in the fish pond at night when they "pinned" their girlfriends. (That's being "pre-engaged" for those too young to know about pinning!)

Fast forward to 1999, when I moved from Central Development fundraising to the Gardens as Director of Development, the best job one can have at Duke! In the intervening years since 1954, the Gardens became even more beautiful...but no buildings existed for programs, classes or gatherings for any purpose. The staff was working out of a few very old trailers

that leaked when it rained. A long, tall, solid fence and handsome shrubs concealed that site. Change was underway.

Planning for the Doris Duke Center had been in process for at least a couple of years, and construction began in early 2000. The Center was dedicated with great festivity on November 2, 2001, and a new world opened up for Sarah P. Duke Gardens. I stand in awe at what has been accomplished in the last 12 years as a result of the abundance of hard work and creativity of gifted horticulturists and staff, and the dedicated leadership of the directors. Sarah P. Duke Gardens is said to be Duke University's "crown jewel," which says it all!

Kay Randolph (N'58)



The Terrace Gardens in the early 1940s. All 1930s and 1940s photos courtesy of Duke University Archives.



ensuring an enduring pergola

By Bobby Mottern, *Director of Horticulture*



The Terrace Gardens are one of the most popular destinations in Duke Gardens. Each April, people flock there to enjoy the dazzling display of bulbs, cherry trees and the Pergola's iconic Chinese wisteria.

In May, Sarah P. Duke Gardens will celebrate the 75th anniversary of its dedication in 1939. Once the festivities have ended and graduation pictures are taken, we'll commence a project that focuses on restoring the pergola's metal frame structure as well as rejuvenating the original wisteria vine that envelops it.

This important restoration was made possible largely by the Duke Campus Club, which chose the project in celebration of its own centennial.



In her original plan for the terraces, landscape architect Ellen Shipman specified a flowering vine to adorn the pergola. She chose Chinese wisteria (*Wisteria sinensis*). It was planted most likely in the fall of 1938 or winter of 1939, when the majority of the terrace plantings were installed.

Chinese wisteria was first introduced to the U.S. in 1816 to support the nascent horticulture trade. With its fast growth and long trailing racemes of lilac-colored flowers, it became a very popular vine for shade and fragrance, used primarily adjacent to porches, on gazebos and rambling down fences in the Victorian landscape.

Unfortunately, its beauty belied its aggressiveness, and as with many introduced plants, its hostile tendencies were not realized for many years after its introduction. Over two centuries it has escaped to areas throughout the South, and it frequently climbs 50 to 75 feet high, engulfing trees, houses and anything else in its path. Because of this aggressive nature, this wisteria is on invasive plant lists from Virginia to Texas.

How does it spread so fast? Wisteria's natural growth habit sends 20- to 50-foot shoots from the base of the trunk. These shoots grow just above the ground and contain buds that will sprout and grow into new vines when they reach a preferred location.

Wisteria has another mode of propagation that's much more interesting—dehiscence. Dehiscence is the process of drying and splitting of seed pods in preparation for dispersal. In wisteria's case, dehiscence is a more violent activity called explosive seed dispersal! Wisteria seed pods are 4 to 6 inches long, with a velvety coating. The bean shaped seeds are about the size of a dime. When the pods dry out in autumn, the fun begins with a sharp crack as the pods explode, flinging the seeds many feet away. Other plants perform similar ballistics, including our native touch-me-nots (*Impatiens capensis*) and Africa's dynamite tree (*Hura crepticans*), which can hurtle its seeds up to 300 feet away.

Chinese wisteria was first introduced to the U.S. in 1816 to support the nascent horticulture trade.

Since wisteria is such an aggressive plant, we have kept its growth in check by annual summer pruning, removing the spent flowers and thus eliminating most chances of pods forming and seeds flying about.

Another amazing feature of many plants is that their growth habits can be extremely malleable and may respond positively to manipulation. Poinsettias can be tricked to bloom in July if given the proper lighting requirements. Bulbs can be forced to bloom in December if given the proper cold treatment. Lemons, limes and oranges can grow on one tree by grafting. And giant sequoias can be trained as diminutive bonsais if pruned properly. Wisteria also tolerates severe pruning and I've seen it frequently used as espalier on garden walls in England.

We'll use this manipulation to our advantage later this summer, when the pergola restoration project kicks off. Just prior to the renovation, the vines will be pruned back to ground level. As the new sprouting vines emerge later this summer, we'll train them up around the pergola columns.

Another benefit to cutting back the wisteria will be to improve the flowering display. As plants age, their vigor diminishes—yes, even wisteria vines can show symptoms of old age! The flowering of our wisteria has become very inconsistent over the last 10 years, and we believe it may be a result of some girdling taking place from the vines having grown through the columns, or it may be indicative of an old specimen. By cutting the wisteria back to the ground and applying a specific fertilizer, we should see new growth and an improved flower display in a few years.

I am looking forward to the 75th anniversary of the pergola and Duke Gardens, and celebrating everything that they mean to the Duke community. But I'm equally as excited about the renewal process for an old vine considered a horticultural patriarch, which has created decades of splendor and captured the hearts of thousands of visitors.

viewpoints

Athira Nair (T'12)

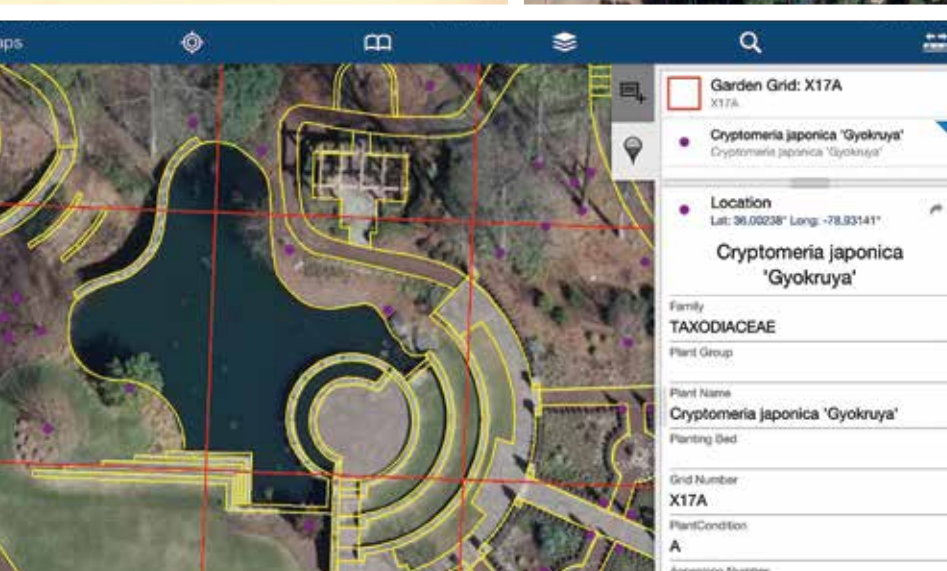
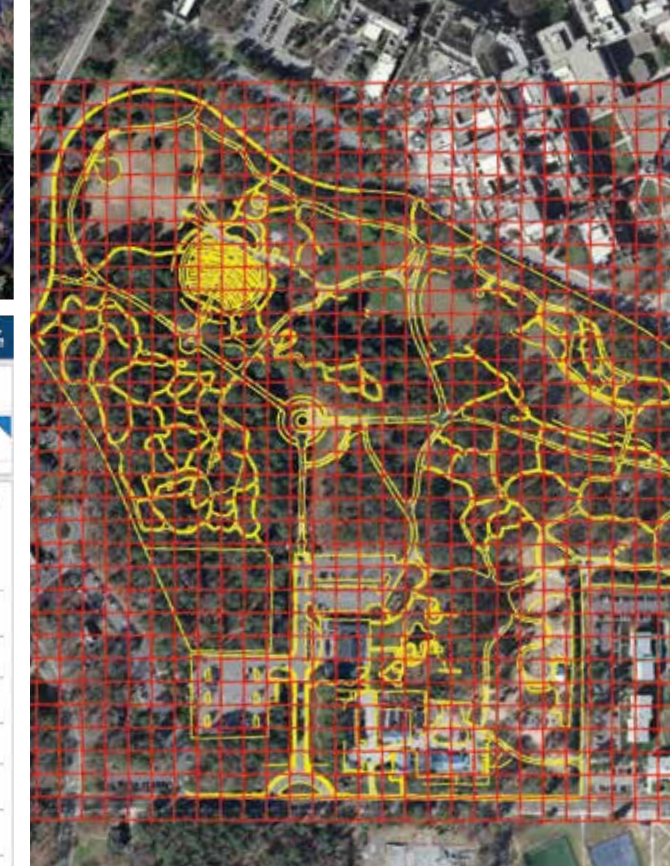
On running through the Gardens



On every single good weather day, I ran from West Campus to East, passing through Duke Gardens along the way. I ran this route so many times that I have every sensory detail memorized of my path down Flowers Drive and into the Gardens, over the footbridge, through the sandy path, past the fountain and into the parking lot.

Running through the Gardens made me feel better when I was overwhelmed with classes, stressed out about friendships or worried about career plans. And though I started this tradition because I loved running, it became more about my love for the Gardens as the years went by. By the time I was a junior, if I had a bad day, I would walk by the flowerbeds in the Gardens until I felt better.

I spent more and more time in the Gardens as the years went by because there was never a day when I didn't find it beautiful.



mapping Duke Gardens

By Beth Hall, Paul J. Kramer Plant Collections Manager

When I started in the newly created position of Paul J. Kramer plant collections manager in March 2013, the most recent inventory of the plants in the gardens had been done nine years before. At the time, staff and volunteers undertook the enormous task of creating an inventory of every plant in our 55 acres and recorded the information they collected in BG-BASE, a database created specifically for plant records. A grid of 40-foot squares was laid over a map of the Gardens to help locate plants within garden sections, but there was no way to record precise locations of trees and shrubs.

Last summer, we began the process of creating a comprehensive and cohesive map of the Gardens. Features like paths, ponds and walls were drawn over a high quality aerial photograph that is linked to a coordinate system. Any points or lines created using the image are automatically given latitude and longitude coordinates. This allows us to map individual trees and shrubs with accuracy.

The grid system from the old maps was overlaid on the new map so we can track plants using both systems. An accession number (a unique number assigned to every plant when it comes to the Gardens) links the mapped plants to their

information in our digital and paper records. As we have records going back to the very first days of the Gardens, when records were kept in a card catalog, being able to connect new data with old is valuable.

It's not just plants we're mapping. Our summer interns located and mapped all the benches and memorials in the Gardens, using an iPad and an ArcGIS app. They were able to map more than 200 items over the course of a few weeks.

Using an iPad in the field also allows us to take pictures and quickly attach them to points on the map. The program we use allows layers to be added that can be toggled on and off, which means that we can have a large amount of data on the same map, including irrigation valves, elevation lines and points of interest. Being able to find irrigation on a map has already proven useful to the horticulture staff, and the possibilities of what we can map are endless.

As we move into our 75th year, we look forward to using new technology to make our past more accessible. We can visualize the Gardens in a whole different light and more easily access the history of the many wonderful plants that grow in our living collections.

Project Budburst: the citizen scientist network

By Jan Little, Director of Education & Public Programs

Plants tell a story about our world. The calendar dates of a plant's leafing, flowering and fruiting is affected by temperature, rainfall and day length. This allows us to track patterns and understand annual cycles and variations in climate. Perhaps plants can serve as key indicators as we sort out the story and events of climate change.

Horticulturists have used this information, called phenology, for many years to predict garden events with some accuracy. If you track the temperatures over the course of years, then the timing of a plant's flowering becomes predictable. With that information you can also forecast other events. For example, the hatch of some insect pests matches the bloom-date of particular plants. The plant can act as a signal that this is the time to begin control measures for that insect.

Plants have two features that make them valuable to us as storytellers: first, they don't move and adjust their range as animals can do; second, plants are very sensitive to minor variations in temperature and climate. Using the centuries of information about blooming phenology, scientists are able to map the global changes in bloom cycles to enable a better understanding of the impact of climate change and the patterns of adjustment that may result.

A worldwide network of citizen scientists is being created to build current phenological information. You and your family can join this effort through Sarah P. Duke Gardens and Project Budburst. The data will be sent to an international resource, the Plant Phenology Network, to assist scientists studying climate change.

The data collected here will also allow Beth Hall, the Paul J. Kramer plant collections manager, to add detail to our records. This information will grow in its usefulness to local gardeners and visitors seeking information about plants that thrive in the Piedmont. Over time Beth will be able to see local trends emerge and update our members with trends in plant success.

Duke Gardens has selected 10 plants to track. Some were chosen because they were identified by Project Budburst as among the top 10 being tracked around the world. A few were selected because they have been identified as at-risk plants. The last few were selected because they share a close relationship with an Asian plant (disjunct species), and we hope to expand this partnership to include an Asian garden partner.

The 10 plants on Duke Gardens' list may be tracked here — or anywhere else in Durham. Just go to the "learn" page at gardens.duke.edu and look for the Project Budburst logo. That will take you to an enrollment page.

Project Budburst is a collaborative partnership between the National Ecological Observatory Network (NEON), the Chicago Botanic Garden and the National Science Foundation. It is exciting to see people from all over the world updating information on a plant that you have enjoyed for years. Knowing that you are contributing data that will help answer some of the essential questions of our time is very rewarding. We hope you'll become a citizen scientist and join the worldwide network.



Above (L-R): red columbine (*Aquilegia canadensis*), American witchhazel (*Hamamelis virginiana*).



Marriages and memories

Did you get married at Duke Gardens? Do you have another favorite memory or photo from the last 75 years that you'd like to share? We would love to receive it. We're preparing a historic wedding log for our archives, as well as other collections of memories that will help tell the story of Duke Gardens in the last 75 years.

If you'd like to share a photo, wedding date or other story, please email them to orla.swift@duke.edu, with the subject line "Duke Gardens wedding" or "75th anniversary memories." Thank you!





Chinese Tree Peonies: the roots of a long-distance gift

By Paul D. Jones, Curator, W.L. Culberson Asiatic Arboretum



Serendipity: The occurrence and development of events by chance in a happy or beneficial way.

– Oxford Dictionaries Online

Serendipity is not an oft used term, but it's one that describes well the good fortune fate bestowed upon the Gardens with the recent acquisition of a significant collection of Chinese tree peonies. The collection: a gift in kind. The donors: Jane and Nelson Hsu of Germantown, Md. The Hsus had no previous connection with Duke Gardens. How we came to be on their radar and the recipient of their generosity is an interesting story.

Nelson and Jane were both born in mainland China, he near Suzhou, she Hangzhou. Political circumstances prevalent during their childhood resulted in both moving to and growing up in Taiwan. Their paths first crossed as young adults while they were teachers in the local Taipei county school system. Jane subsequently moved to Canada to study English literature at the University of British Columbia. Soon after, Nelson departed for the U.S. to study engineering at Johns Hopkins. Awhile later they were reunited in Baltimore, and they united in marriage in 1965.

Duke first enters the equation in the person of David Kao. David is a Duke trained engineer. In the late 1960s and '70s, Nelson and David were fellow faculty-persons in the College of Engineering at the University of Kentucky.



Their families developed a close and lasting friendship. The Kaos left Kentucky for Iowa State; the Hsus returned to Maryland, where Jane worked as a librarian and Nelson as an engineer with the National Institute of Standards and Technology. The families' friendship endured the separation.

From the time she left home as a child in 1948 to briefly "vacation" with her older brother in Taiwan, Jane Hsu was an innocent victim of politics and unable to contact her parents and siblings. That is, until 1983 when, after 35 years estranged, a reunion occurred. Among the details Jane learned about her family was a shared interest in gardening. Indeed, her eldest sister, Zhang Yuexian, is a horticulturist specializing in cultivating peonies and had worked since the 1950s at the renowned Heze Peony Research Institute in



Shandong province. Not long after this reunion, Nelson and Jane successfully petitioned the USDA for a permit to import Chinese tree peonies from her sister at Heze, an order they placed annually for many years.

On their modest property just outside the din of Rockville, the Hsus amassed a collection of hundreds of peonies. Each spring they opened their garden treasure to friends and neighbors and guests from afar. In their mind, sharing their floral wealth is as important as possessing it. However, maintaining such a collection entails a lot of work—an amount better suited for the muscles of gardeners a bit younger. Rather than struggle and watch the collection suffer for want of care, the Hsus, now in their 70s, decided to seek for their peonies another home.

Reenter into the picture good friends David and Theresa Kao. The Kaos have just recently relocated to the Triangle area,

Regular visitors to Duke Gardens, the Kaos noted the modest presence of tree peonies in the Asiatic Arboretum and, aware of their friends' desire to relocate their peony collection, suggested that "maybe Duke Gardens would be interested." Serendipity.

in part to be near their daughter Annie and her family. Like her dad, Annie (T '92) is a graduate of Duke, and she now works with DukeEngage. Regular visitors to Duke Gardens, the Kaos noted the modest presence of tree peonies in the Asiatic Arboretum and, aware of their friends' desire to relocate their peony collection, suggested that "maybe Duke Gardens would be interested." Serendipity.

The relocation effort last fall required two trips with large box trucks. In the end, more than 200 tree peonies were transplanted. Of those, 140 are permanently sited in the Arboretum, the remainder potted or "heeled in" for future placement. We are hoping for a modest display this spring, but we expect this year to be a "down time"—a period of readjustment from the shock of moving. Indeed, most specimens have been pruned in order to balance the top growth with the compromised roots. Jane and Nelson are anxious to visit their "children" this spring, and hopeful to be accompanied by Jane's sister, who has since retired from Heze and relocated to Canada.

*A melancholy walk among red peonies;
When evening comes,
only two flowers remain.
They will not survive the morning wind;
I regret their passing by the campfire's light.*

—Tang Dynasty poet Bai Juyi

Photos: Pg. 16: Nelson and Jane Hsu, surrounded by photos they took of their many Chinese peonies. Pg. 17: Chinese tree peonies in the Asiatic Arboretum, an earlier gift from Paul and Cora Harrison in memory of their daughter Julia Ann. Pg. 18: More of the Hsus' Chinese peonies, and a photo of their home.

viewpoints

Casey Johnson (F'15)

On the Zig-zag Bridge



I recently moved to Durham, to attend graduate school at Duke. Now, whenever anyone visits me I immediately say, "Let me show you campus!" And we walk right to Duke Gardens. And they always love it. Always.

The Gardens are a place for me to go when I have had an extremely tough day at school. It is a place that relaxes me and gets my head straight. I feel like the air is a bit fresher in the Gardens! When I sit on the Zig-zag Bridge and watch the ducks go by, I feel extremely connected to the environment and the university.

As a member of the Duke community, I feel like it is my privilege and duty to share the Gardens with all of my visitors. Each time, they are just as amazed as I am by its uniqueness and beauty.



gardens programs for all to enjoy

By Jan Little, *Director of Education & Public Programs*



This spring Duke Gardens is introducing a series of free events and programs that will help you explore the science and fun of garden plants and animals.

Begin your visit to the Gardens by collecting information and activities from the **NATURE RANGER CART**. This spring the cart will greet you at the Gothic Gate entry each Saturday in April and May from 1 to 3 p.m. It will be fully stocked with:

- a sample of the flower of the week
- “Now Showing” lists and maps to lead you to the most vibrant plants and blooms in the Gardens
- family activity sheets
- self-guided Gardens scavenger hunts
- Gardens maps

The cart will be staffed, so you can get updated information about events in the Gardens or special garden areas that are not to be missed that day.

In the Charlotte Brody Discovery Garden, a new **EXPLORATION STATION** will be available for all visitors on each Saturday in April and May, also from 1 to 3 p.m. Plant a seed, taste a freshly picked vegetable and learn more about how plants grow. The Exploration Station will offer:

- seasonal demonstrations
- stories
- experiments and hands-on projects

We hope you’ll join us in the Discovery Garden to learn more about plants, pollinators, food and sustainability.

NATURE STORYTIME continues in the spring on April 5 and 17 and May 3 and 15 from 10:30 to 11:30 a.m. Each storytime introduces you to a seasonal book read aloud in the Gardens, followed by an activity or garden walk that explores the story topic in the Gardens. Learn more about plants, gardening, bees and insects, animals and life in the garden. This series is for children ages 3 to 6 with an adult chaperone, and we welcome all to join us. Please check in at the front desk of the Doris Duke Center for location information.

For adult gardeners we have a series of lectures by the **DURHAM COUNTY MASTER GARDENERS** available on Thursday evenings from 6:30 to 8 p.m. Join us for a presentation titled “Birds, Bees and Butterflies” on May 1, “Garden Room Development” on May 15, “Herb Gardening” on June 12, and “Autumn Container Garden Design” on August 21. Registration requested. Call 919-668-1707.

We began the season with a weekend **ART EXHIBIT** featuring the Blomquist Garden of Native Plants. Local artists were asked to use the inspiration they get from this garden to develop a two- or three-dimensional work of art that re-interprets the garden through their eyes. We were delighted by their work, some of which you see here in Flora, and we look forward to more artistic partnerships.

The Gardens are a source of inspiration and knowledge to us all. We hope these programs help open a door to further garden fun for all.

Photo on facing page: Families love to explore the Charlotte Brody Discovery Garden together. Above, clockwise from left: Children plant food in the Discovery Garden; siblings enjoy a meditative moment at the Virtue Peace Pond; and boys make crafts at the Nature Ranger Cart.

arts in the gardens

We all know that Duke Gardens is a work of art in itself. And we've long had our hand in the arts world, from Music in the Gardens' outdoor concerts to nature photography classes, puppet parades, films, swing and tango dances and other offerings.

This year, we've got even more in store. From visual art to jazz, rock, and an improvisatory classical creation by Mallarmé Chamber Players, we hope there's something for you to enjoy in the coming months.



MUSIC IN THE GARDENS

Duke Performances will bring back its Music in the Gardens outdoor concert series to Duke Gardens this summer. The acts had not yet been announced at press-time, but count on a mix of fresh sounds for a variety of tastes.

All concerts take place rain or shine on the lawn behind the Doris Duke Center. Shows are at 7 p.m. The lawn will open 30 minutes prior to the start of each show. Lawn chairs, picnics and blankets are encouraged. Dogs are not allowed. Food and beverages, including beer and wine, will be available for purchase.

Tickets generally go on sale in May at tickets.duke.edu or 919-684-4444. Keep an eye out for an announcement at dukeperformances.duke.edu and gardens.duke.edu.

CIOMPI QUARTET PRESENTS

Duke Gardens will partner once again with Ciompi Quartet, Duke's Department of Music and the Office of the Vice Provost for the Arts for a summer chamber music series.

"Ciompi Quartet Presents" will take place on three Tuesday evenings at 7:30 p.m. in Kirby Horton Hall in the Doris Duke Center. Each will feature one or more members of the Ciompi Quartet with guest artists.

The concert dates and featured Ciompi musicians are:

July 1: Jonathan Bagg (viola)
July 29: Eric Pritchard (violin)
Aug. 12: Fred Raimi (cello)

Tickets and subscriptions will go on sale in May. Parking is free after 5 p.m. For more information, please go to ciompi.org.

The Ciompi Quartet was founded at Duke University in 1965 by the renowned Italian violinist Giorgio Ciompi. All its members are professors at Duke and play a leading role in the cultural life of the university and community, in addition to traveling widely throughout the year for performances.



ART & NATURE EXHIBIT

As part of the 75th anniversary of its dedication, Duke Gardens hosted a weekend exhibit in March titled "Art and Nature: Artwork inspired by the Blomquist Garden of Native Plants." The richness of our native flora served as inspiration for more than 20 local artists working with a wide array of media.

The variety of art inspired by the Blomquist Garden was truly remarkable, ranging from classic botanical illustrations to abstract pieces in pencil, as well as acrylics, watercolors, textiles, furniture and more. You can see it online at dukegardens.viewbook.com/album/art-nature-exhibit.

MALLARMÉ CHAMBER PLAYERS

The Triangle-based Mallarmé Chamber Players have partnered with Duke Gardens for a number of events over the years. The latest promised at press time to be especially exciting. In this fun and interactive family concert on April 6 at 12:30 p.m., the audience will create the music with guidance from composer Bo Newsome. The best part? The Mallarmé ensemble musicians will perform the very piece the audience created.

For more information, please call 919-560-2788 or go to mallarmemusic.com.

DUKE JAZZ ENSEMBLE

Duke Gardens has formed an exciting new partnership with the Duke Jazz Ensemble. Composed of 20 musicians and directed by John Brown, the ensemble allows students to perform in small groups in a wide variety of settings. Students must audition to become members of the ensemble, and thus they play at a very high level.

In November 2013, John Brown directed his first concert at the Gardens. The final event of this school year's partnership series will be a free concert in the Angle Amphitheater on May 10, during graduation weekend. The ensemble also presented a free swing dance for students in March.

Our partnership with the Duke Jazz Ensemble is the perfect opportunity for students to perform in a venue as unique as Duke Gardens, while showcasing the beauty of the gardens and the perfect synergy between music and nature.

- Erika Zambello

"Art & Nature" photos (from top): "Wild Ginger Planter," by Sasha Bakaric; "Scarlet Hibiscus," by William Alberti; and "Bloodroot," by Pamela Stubbs.





GREENER GARDENS

Duke Gardens has always strived to be ecological, with sustainable practices both indoors and out. Now we've got a Green Team devoted to reducing our environmental footprint by using less electricity, water and other resources.

Led by director of horticulture Bobby Mottern, the team includes staff members Kavanah Anderson, Stefan Bloodworth, Beth Hall, Chuck Hemric, Jason Holmes, Matt Luks-Jurutka and Annabel Renwick.

We are fortunate that Duke has a sustainability office and provides plenty of suggestions, encouragement and services to make our lives at Duke a little greener. One goal of the committee will be to receive 'Duke Green Workplace' recognition. It requires that we address a checklist of about 60 items that deal with topics such as energy, water, transportation, recycling and waste reduction for interior or office environments.

Photo: Composting in the Charlotte Brody Discovery Garden.

Some items are simple, such as turning off lights when not in use, or eliminating junk mail by removing ourselves from mailing lists that are no longer relevant. Other items require a little more effort and investment, such as taking public transportation or retrofitting drinking fountains with water bottle faucets.

But with much of our work activity associated with the physical garden, our remaining targeted efforts will be focused outside. The first thing that one might think of in that regard is certainly water. We'll focus on irrigation consumption, improving stormwater quality, and overall use reduction.

Other large topics include non-renewable energy use, solid waste reduction, plant conservation and, most importantly, education.

As garden staff, most of us think along similar lines regarding sustainability, but we really want the message to be shared among all users of Duke Gardens. Once our programs are up and running, we'll want to share the success stories with the visiting public via our website and other forms of communication in the Gardens. And eventually we'll want everyone to "bleed blue and live green!"

- Bobby Mottern

NATIONAL FAME

The Awards Committee of the American Public Gardens Association honored Sarah P. Duke Gardens with the Association's 2013 Horticulture Magazine Award for Garden Excellence. This award is given annually to a public garden that exemplifies the highest standards of horticultural practices. It was presented at the APGA annual meeting in Phoenix in May 2013.

"I am pleased and humbled to accept this award on behalf of Duke University and those who truly deserve the credit: the staff, volunteers, donors and board of advisors of Sarah P. Duke Gardens," Duke Gardens executive director Bill LeFevre said in accepting the award.

Duke Gardens joins a distinguished list of previous winners, including the Missouri Botanical Garden, Chicago Botanic Garden and the Smithsonian Gardens. Horticulture magazine featured Duke Gardens in its January 2014 issue.



SUMMER INTERNS

Duke Gardens welcomed a smart group of interns in summer 2013. The interns helped in all parts of the Gardens, but they also worked collaboratively on a summer project using our development records and mapping system to map all of the gifts to Duke Gardens since its inception. This information will help visitors and donors to locate their gifts when they visit the Gardens in the future.

The interns were:

KATELYN BACHMAN, a senior at the University of Arkansas. Katelyn is pursuing a career in horticulture sales.

JENNIFER PRIES, a recent graduate of N.C. State University. Jennifer came with landscaping as well as retail florist experience. She currently works at a florist shop.

MARY REEG, who graduated from the University of Florida-Gainesville with a degree in Landscape and Nursery horticulture with an emphasis in public garden management. Mary hopes to work at a public garden in Florida.

RYAN WINKLER, a horticulture technology major at Alamance Community College. Ryan came to us with a lot of hydroponic greenhouse experience, as well as retail work at nurseries in Hillsborough and Durham.

We have an impressive group of applicants for summer 2014. We look forward to telling you about their accomplishments next year.

- Michelle Rawlins, Horticulturist & Intern Program Coordinator

NEW STAFF



Karli Stephenson (gardening assistant) grew up in Brevard, N.C., and graduated from UNC-Chapel Hill in 2008 with a BA in journalism and mass communication with a concentration in graphic design. She decided to change careers and follow her passion for horticulture and began to volunteer in the Asiatic Arboretum in February 2013. She was hired part time in June 2013 to work in the Charlotte Brody Discovery Garden and elsewhere in the Doris Duke Center Gardens. It's been a whirlwind of learning new plants and best gardening practices, and lots of weeding! She is currently a student at Alamance Community College in the horticulture technology program.

POETIC GIFTS



Duke Gardens has a wonderful group of volunteers with a variety of talents. Volunteer Flora O'Brien shares her skills in the Culberson Asiatic Arboretum, but she has an additional gift that delights those who read the volunteer log. Each day after volunteering, she writes a haiku.

"Haiku as a form of poetry appeals to me because of its brevity and its complexity," O'Brien says of her poetic avocation. "Words must not only express but also imply, hint at, tease. It's a story told in three lines."

One of her favorite haikus was inspired by the Kathleen Smith Moss Garden:

Woodland garden shade
Spent leaves whisper as they fall
Moss embraces stone.

Flora O'Brien epitomizes the many ways that nature can inspire art and art can reflect nature, and we look forward to more of her haikus in the future!

- Erika Zambello

Do you have a special connection with Duke Gardens?

If so, we'd love to hear about it.
Please write to Flora
at orla.swift@duke.edu



PROMOTIONAL WEDDING VIDEO

Duke Gardens has a fantastic new wedding marketing video, thanks to N.C. filmmakers Blueberry Creative and the lovely and accommodating couple Betty X. Yang and Frederic Chang, who are also Duke alumni (L'09).

Although this is a promotional video, it's not like a typical commercial. Rather, it's a sweet vignette of Betty and Freddy's wedding, in which we worked our gorgeous Kirby Horton Hall, Angle Amphitheater, Page-Rollins White Garden and John J. Piva Terrace in as star players.

In the two months since we posted it in mid-December to our website, as well as youtube and Vimeo, it had already racked up more than 1,500 views. You can see it at gardens.duke.edu/rentals.

We hope you'll check it out and see the leading role that Duke Gardens played in Betty and Freddy's dream day.



PHOTO BONANZA

Duke Gardens visitors love taking photos, and we love seeing them posted online—from Pinterest to Flickr, Instagram, Smugmug, professional photographers' blogs, and our Facebook photo contests.

The Facebook contests are especially popular, with the latest drawing more than 165 entries. Some of these photos have made their way (with permission) into Duke Gardens' calendars and other publications. We've also attracted new volunteer photographers from among the Facebook contestants.

Do you have a favorite photo of Duke Gardens from the past or present? If so, we'd love to see it. You can email them to DukeGardensPhotos@yahoo.com (write "favorite photo" in the subject line). And please "like" our Facebook page (facebook.com/dukegardens), so you can see all the gorgeous photos and perhaps enter one of the contests yourself.



Photos (clockwise from top left): Betty X. Yang and Frederic Chang portrait by Robin Lin, and Facebook contest photos by Emily Miller and Esther Almazan.

EXPANDING OUR KNOWLEDGE AND INFLUENCE

Duke Gardens' staff members seek opportunities to learn and to share their expertise through membership in state and national organizations. These activities also serve to inform others in the field about Duke Gardens' many attributes.

The entire staff belongs to the American Public Gardens Association (APGA). Beyond that, here are a few examples of our local and national involvement.

BILL LEFEVRE: Treasurer of the American Public Gardens Association; vice-chair of the Tourism Development Authority, Durham Convention & Visitors' Bureau.

BOBBY MOTTERN: American Society of Landscape Architects; International Society of Arboriculture; American Camellia Society; Professional Grounds Management Society; N.C. Nursery and Landscape Association.

JAN LITTLE: Leadership team for the APGA College and University Botanical Gardens Committee.

TERESA DARK: American Horticultural Society; Council for Advancement and Support of Education.

STEFAN BLOODWORTH: N.C. Native Plant Society.

CHUCK HEMRIC: APGA Volunteer Management Professional Section; N.C. Association of Volunteer Administration; Durham Area Volunteer Administrators.

JASON HOLMES: American Conifer Society.

PAUL JONES: North American Japanese Garden Association Board of Directors.

MIKE OWENS: American Society of Landscape Architects.

MICHELLE RAWLINS & MATT LUKS-JURUTKA: North American Japanese Garden Association.

LINDSEY FLEETWOOD: Carolina Farm Stewardship Association.

JEFF HARWARD: Certification judge for Professional Landcare Network (PLANET).

SARA SMITH: Vice-president of the Durham County Master Gardeners; chair of Master Gardeners Advisory Committee.

FOOD FOR CHARITY

The Durham branch of the Food Bank of Central & Eastern North Carolina was again able to provide hundreds more meals to needy families over the winter, thanks to the third annual Duke Gardens holiday food drive led by curator Jason Holmes.

The staff and volunteers of Duke Gardens gathered 1,673 pounds of food, baby supplies and related products sought by the Food Bank for its clients' use year-round. That's 1,000 pounds more than last year, and it will help provide more than 1,400 meals throughout our local community. Thanks to all who donated. We look forward to helping even more people next year.

Duke Gardens strives to be ecological. If you'd rather read Flora online than receive a printed copy, please let us know.

Email millicent.snow@duke.edu or call 919-668-1711.

Thank you!

a closer look: Duke Gardens curators on interesting plants in their gardens



APIOS AMERICANA (a)

This very interesting North Carolina native plant came to the Historic Gardens in an unusual way. I had recently planted viburnum shrubs, dug from a nursery in the North Carolina mountains, near the Duke stone pump house at the bottom of the terraces. I thought I had spotted a native wisteria vine growing in one of the shrubs and proceeded to remove it. Luckily it was in bloom and the purplish-brown flowers indicated to me that it was not a wisteria but something different. Curator Jason Holmes identified it as *Apios americana*, commonly called hopniss, groundnut or Indian potato.

Hopniss is a native herbaceous vine found in floodplains and along river edges and other wet places all over the eastern United States. This legume is in the Fabaceae family and forms nut-sized strands of tubers on the roots. Native Americans and early European settlers commonly boiled the tubers and ate them in place of bread, and they considered the taste rather delicious. The flowers that bloom in July and August make this vine attractive enough to be used as an ornamental.

We dug up some of the tuberous roots and transplanted them to containers to be used elsewhere in the Gardens. I also planted the main portion of the vine next to the pumphouse with the hope of training it to grow up on the roof. This plant makes an attractive perennial edible landscape ornamental.

— Michael Owens, curator, Historic Gardens



MUSA VELUTINA (b)

One of my absolute favorites among the hardy bananas is the Pink Velvet. From northeastern India, *Musa velutina* forms a stunning clump of large leaves that reach to 8 feet high. A spike of flowers develops atop the pseudostems, and by mid-summer the spike of flowers becomes a mass of attractive bright pink, velvety bananas. This is where the word “velutina” translates to “velvety banana.”

These bananas are very small and seedy, and I imagine that they would not provide a substantial source of calories. In November, the pink bananas burst open to reveal a white interior that from a distance makes them look like they are flowering again.

The Pink Velvet banana thrives in our heat and humidity and does well with good moisture and lots of sun or even the high canopy of trees. Though *Musa velutina* is hardy to zone 7b, it may be best protected with a pile of leaves during the winter. The Pink Velvet banana is a true hardy tropical for the summer landscape and will leave many gardeners asking, “What’s that?”

— Jason Holmes, curator, Doris Duke Center Gardens



PINCKNEYA BRACTEATA (c)

The Cinchona tree of South America is known as the source of the compound quinine, which for many years was the only treatment for malaria, a disease caused by the parasite *Plasmodium falciparum*. An infusion of the bitter bark from one of our own native trees, *Pinckneya bracteata*, was used for many years in a similar capacity during times when the malaria parasite, among other fever-producing pathogens, was common in North America.

Also known as fevertree, *Pinckneya bracteata* can be found infrequently in the Deep South along the margins of bays, swamps and streams. Were you to brave the muck and mosquitoes of early summer in the right swampy spot, you might be rewarded for your dedication with a spectacular floral display. This species is also known as the poinsettia tree, due to its showy, silver-pink sepals that surround the otherwise inconspicuous tubular flowers, creating a charismatic show for a period of a month or more.

Like the aforementioned Cinchona tree, *Pinckneya bracteata* is a member of the family Rubiaceae (Madder family), and it can grow to be a leggy, 20-foot-tall specimen in moist, acidic soil conditions from zone 7B and southward. To find it in the Blomquist Garden, visit the pond near the 36th parallel medallion. There is a small fevertree grove near the large buttonbush (*Cephalanthus occidentalis*) at the pond’s southwest corner.

— Stefan Bloodworth, curator,
H.L. Blomquist Garden of Native Plants



LIGUSTRUM LUCIDUM (d)

In honor of the Gardens’ 75th anniversary, the Arboretum plant focus for this issue is on *Ligustrum lucidum*, a species of shrub native to Southeast Asia that was present in the original Duke Gardens landscape and is still in use today.

Commonly known as “glossy privet,” *L. lucidum* was introduced via European gardens into American landscapes prior to 1800, probably for use as an evergreen garden hedge. Privets, of which there are several non-native species in horticultural commerce, belong to the olive family (Oleaceae) and thus claim kinship with other familiar ornamentals such as forsythia, lilac and fragrant osmanthus.

In addition to being prized for its landscape qualities, *L. lucidum* is also an important Chinese medicinal. Extracts from its fruit purportedly “tonify the yin,” meaning it is active in restoring and strengthening several systems of the human body.

Unfortunately, it must be added that for all its many positive attributes, horticultural or otherwise, glossy privet and other species of *Ligustrum* are aggressive invasives, sickening instead of healing the North American ecosystems into which they escape from cultivation. Due to this noxious tendency, most specimens in Duke Gardens have been removed. However, the battle against new seedlings will continue for years ahead as birds consume the tasty fruit from the abundant supply growing on neighboring landscapes and deposit the undigested seed on our fertile soil.

— Paul D. Jones, curator, W.L. Culberson Asiatic Arboretum



Is there a plant at Duke Gardens that you’re curious about?

REQUEST A CLOSER LOOK AT IT BY WRITING TO FLORA AT ORLA.SWIFT@DUKE.EDU.



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Nourish Sarah P. Duke Gardens through membership

Duke Gardens is enjoyed free of charge by more than 300,000 people annually. More than half of our operating budget comes from people like you, who value all that this world-class botanic garden has to offer.

Your membership dollars support every aspect of Duke Gardens, from inspired horticultural design to classes and free events for the community, children's programs and many resources that provide the best experience possible for visitors.

All Friends memberships are part of the Duke Annual Fund and are used entirely for the benefit of Duke Gardens. Duke alumni also receive reunion class gift credit. More membership information is available at gardens.duke.edu or by calling 919-684-5579. Thank you.

MEMBERSHIP LEVELS

Duke students and Duke Gardens volunteers	\$ 25
Individual	\$ 50
Dual (spouses/partners)	\$ 75
Family (includes children under age 18)	\$ 100

All membership levels include:

- Education program discounts at Duke Gardens & other participating gardens
- 10% discount on Terrace Shop purchases
- Invitations to special Friends events
- Reciprocal admission benefits to more than 200 gardens in the U.S.
- Flora magazine
- Annual report

ADDITIONAL GIFT RECOGNITION SOCIETIES

Terraces Society \$ 250

Includes membership benefits above plus:

- Duke Gardens calendar
- 20% discount on Gothic Bookshop purchases (*valid membership card required*)
- 2 complimentary gift memberships

[Please provide names & addresses of recipients]

*Membership
 makes a great gift!*

Iris Society \$ 500

Terraces Society benefits plus:

- Duke Gardens note cards
- 2 complimentary registrations for the Gardens' education program

Pergola Society \$ 1,000

Iris Society benefits plus:

- Complimentary Gardens parking

Directors Society \$ 2,500

Pergola Society benefits plus:

- Invitation to behind the scenes tour with director of horticulture

Mary Duke Biddle Society \$ 5,000

Directors Society benefits plus:

- 1 complimentary trolley tour with director, schedule permitting (reservations must be made at least 1 week in advance)

Mary D. B. T. Semans Society \$10,000

Mary Duke Biddle Society benefits plus:

- Invitation to reception/dinner with a featured guest speaker

Corporate Friends \$ 5,000

(Excludes matching program gifts)

- Flora magazine
- Annual report
- 1 free space rental at Sarah P. Duke Gardens or in the Doris Duke Center (Mon.-Thurs.) per availability within membership year