American Floral Endowment
Funding Generations of Progress Through Research and Scholarships

AFE Bulletin

2020 • ISSUE THREE
QUARTERLY NEWS FOR ENDOWMENT SUPPORTERS

Giving to Grow | American Floral Endowment

REGISTER BY 8.31

In light of the COVID-19 Pandemic, American Floral Endowment has transformed our Annual Fundraising Dinner into a Virtual Mask-erade. Supporters of the Endowment are in a unique position this year to do more for the industry from the safety of their homes.

The Endowment's work is ongoing and vital to the continued growth and development of the floral industry as we adapt to this new normal.

This year, AFE committed to funding over $800,000 in research initiatives, educational grants, scholarships, and internships. We've been serving the floral community for 59 years with 44 years of our annual fundraising dinner and we won't let the coronavirus break our streak.

see page 2 for details

Inaugural Paul Thomas Intern of the Year – Renata Goossen

Cultivating the Next Generation

It's always good news to learn that a smart, hard-working, dedicated young person is preparing for a career in horticulture and floriculture—one where she can be expected to contribute mightily to higher standards, better products, innovative techniques, and a healthier marketplace for flowers and plants.

It's even better news when that person is an adept communicator, likely to serve as an impassioned, articulate ambassador for the industry we love so well.

Such a person is Renata Goossen, the first-ever recipient of the Paul Thomas Intern of the Year Award, created to recognize an outstanding student who has successfully completed a Vic & Margaret Ball Internship.

As the Paul Thomas award recipient, Goossen will be provided with free registration, paid hotel and airfare and a cash stipend for expenses at Cultivate 2021, the annual educational and trade event sponsored by AmericanHort.

The award, sponsored by the Vic & Margaret Ball Internship Fund, is intended to promote awareness of all the student programs administered by AFE. It honors the late Dr. Paul Thomas, retired University of Georgia professor, and AFE Ambassador, a tireless and effective supporter of these programs.

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The AFE Bulletin is proudly sponsored by The Todd Bachman Memorial Fund.

Todd Bachman served as Chairman and CEO of Bachman's before his untimely death in 2008. Todd was a past chairman of the American Floral Endowment and was very active in many state and national industry organizations. Those who knew him will always remember what a great communicator he was and his outstanding leadership and devotion to work and family. His wife and daughters are honored to carry on his legacy.

Join our Virtual Mask-erade Dinner!

Join AFE's Board of Trustees and industry supporters in celebrating our Mask-erade Dinner from the comfort and safety of your own home. Sponsors and attendees will receive custom masks with the Giving to Grow & AFE logo.

Register by August 31 at endowment.org/GivingtoGrow

Once you receive your event mask, have a nice dinner in your home, a socially-distanced picnic in a park, outdoor seating at a local restaurant, or even a backyard barbeque.

Enter to win a year of free roses by showing us your style!

Rio Roses partnered with AFE to present an opportunity to win 50 roses delivered directly to you home once a month for an entire year! To enter, register to receive your event mask, decorate your mask, and submit your virtual dinner photo by using the **#GivingtoGrow** and tag on any of AFE's social media accounts:

@americanfloralendowment

@FloralEndowment

@american_floral_endowment

The contest is limited to US participants and all entries are due by September 11th. AFE will use the mask-erade photos shared with us to recognize the sponsors and supporters of this unique virtual event with a collage post-event.

Your charitable donation supports ongoing floral industry programs and is fully tax-deductible.

Questions? Contact Karin Krause, Manager of Communications & Outreach at kkrause@afeendowment.org or call 703-838-5202.

Jim Daly, AFE's Chairman and VP of Smithers-Oasis/Floralife, stated, "During these unprecedented times, we've seen our industry along with so many others face new challenges. The Endowment's work hasn't stopped – the resources, programs, and research that your donations support are needed now more than ever.

By giving to grow, you will help the floral industry to adapt to the ever-changing world around us. We've all had our fill of Zoom, Skype, and conference calls – so take a break, decorate a mask, and snap a photo out in the sunshine! Thank you to our dedicated supporters for your involvement and generosity."

Visit endowment.org/GivingtoGrow to become a sponsor or attendee and see additional contest details

American Floral Endowment

Inaugural Paul Thomas Intern of the Year – Renata Goossen

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Learning by Doing

A senior at Kansas State University, expecting to graduate with a bachelor-of-science degree in May 2021, Goossen requested in her application for the scholarship to intern with Green Circle Growers in Oberlin, Ohio.

It was a savvy choice. Best known for its Just Add Ice brand of potted orchids, Green Circle produces other crops as well, in a complex, diverse operation that ranges from propagation to finish production. Over 16 weeks in the fall of 2019, Goossen was able to work in each of the four main production areas, introducing her to a wide spectrum of crop culture.

Her duties ranged from the mundane and even menial—power-washing algae off the greenhouse floors—to, at times, taking charge of a greenhouse section in the grower's absence. The internship provided practical knowledge of ever-advancing applications such as integrated pest management.

"I really valued the time that each grower took to show me how things work and break down the details," said Goossen. Other valuable lessons related to time and people management and the inspiring work ethic she observed.

"During my time at Green Circle," she wrote in her report on the experience, "I discovered what it means to hold the title, 'grower.' A grower is someone who thinks from every angle: innovating practices, challenging personal expertise, discovering new resources and connections, never settling for the bare minimum."

The growers she worked with returned her admiration. "Renata was a breath of fresh air," said Jarrett Gouch, head grower for young plants at Green Circle, who has worked with many interns over the years. "It's not often that we get such a hardworking, smart, down-to-earth individual."

Working group

Morning Face bench

Gouch's assistant Billy Green chimed in: "I love having interns come through because they help me up my game. Renata was willing to do whatever needed to be done, and always ready to learn."

Not surprisingly, according to Goossen's academic advisor at Kansas State, Kimberly Williams, she was offered a job in every division that she worked in. In fact, during the spring semester Goossen continued working with Green Circle Growers, 10 to 20 hours per week, via a remote marketing internship.

Bridging the Gap

Here is where Goossen's passion for horticulture, her growing expertise, and her ability as a communicator come together. During the internship, she was able to shadow the company's marketing department for a week.

"Green Circle's brands are so well known," she said, "that I was interested in how they translate horticulture to the end consumer. In the work I'm doing for them now, I get a lot of direct experience with consumers who are interested in horticulture but don't know anything about it. I really love bridging that gap."

As an example of how well she does it, Goossen occasionally publishes a blog, in which she has also reported on her internship: https://morningface.net/home/a-bend-in-the-road

No doubt, the enthusiasm and perspective she brings back from the internship not only will enrich her own final year but will inspire other horticulture students at Kansas State. Goossen's advisor, Dr. Williams, summed it up beautifully:

"Renata's experience is an exemplary example of what the Vic and Margaret Ball Program was designed to foster: a skill-building production internship that allows the student to connect classroom knowledge to real world work, and then return to the classroom to enrich the experiences of other students by sharing that knowledge. My friend and colleague Paul Thomas would be pleased to see Renata named as the inaugural Intern of the Year, because she demonstrates so well the characteristics that he valued: passion for horticulture, pursuit of excellence, and a desire to make a difference in our industry."

How AFE Internships Nurture the Future of Floral Industry

Two intern scholarship programs administered by AFE help to ensure that the best and brightest can enter the floral industry fully prepared and deeply passionate about the work they do. The Vic and Margaret Ball Intern Scholarship Program places students at leading floriculture growing operations for three, four, or six months, where they receive hands-on training during their undergraduate years. The Mosmiller Intern Scholarship Program allows interns to train at a retail, wholesale, or allied trades operation for 10 to 16 weeks. Both programs include a paid internship, along with a scholarship upon successful completion of the internship.

For more about both of these intern scholarship programs, visit: **endowment.org/internships**

Meet this year's Paul Ecke Jr. and Altman Family scholars: plant-powered people, creating people-powered plants.

Talk to the five graduate students selected to receive this year's AFE Paul Ecke Jr. and Altman Family scholarships, and some common themes quickly emerge. They are self-described plant nerds with a passion for horticulture—and enthusiastic advocates for their chosen field.

Young as they are, they are already leaders, with an impressive record of volunteer activity. Each of them is also a well-rounded individual who pays attention to soft skills like communication and time management.

More than most students, they have the benefit of real-life experience (because they took initiative to seek it out) that informs their understanding and their sense of purpose.

As dedicated graduate students, they are engaged in research projects that promise real, near-future results: improved crops or growing techniques, with both economic and environmental benefits.

All of them, undoubtedly, have felt an impact from the COVID-19 pandemic on their studies—but they are rolling with the punches and moving unfazed toward bright futures in horticulture and floriculture.

2020 Paul Ecke, Jr. Scholar: Annika Kohler

"One of the best things about being a graduate research assistant is that you can work on projects that will actually help growers with everyday problems," says Annika.

That's not a statement you would hear from just any graduate-level researcher. But Annika has always sought out opportunities for practical experience that would complement her academic career, giving it direction and focus.

"My mom always told me, the answer is never no until you ask," says Annika. "So, I'm always trying to put myself out there."

Her efforts have paid off. Following her graduation from the University of Georgia with a Bachelor of Science in Horticulture, she interned for five months with a local greenhouse grower and later served an internship at the University of Georgia Gardens.

At Michigan State, she has already engaged in research that could benefit the horticulture industry as a whole. Her master's thesis will explore the use of energy-efficient LED lighting in ornamental young plant production.

Over the long term, Annika hopes to continue to work in research and development within the horticulture sector. One of the ways that scholarship money comes in handy, she notes, is in funding opportunities to attend conferences, both to learn and to share her own findings, and just to network: "I love meeting new people, especially other plant nerds; it just clicks instantly."

When reflecting on her scholarship, Annika notes, **"It is really a high honor. Just being able to say that I am an AFE scholar opens up opportunities in our horticulture world."**

Established in 2002, the Paul Ecke, Jr. fund offers $5,000 a year for two years to one graduate student who demonstrates the skills and passion to become a leading floricultural scientist and educator. The scholarship honors the late Paul Ecke, Jr., who made significant contributions to the floriculture industry and believed strongly in research and education.

2020 Altman Family Scholars: Mason Marshall, Rhiannon Newton, Brooks Parrish, and Erin Pfarr

Every year since 2015, the Altman Family Scholarship has offered support to outstanding graduate students in horticulture at leading institutions—students already making significant contributions to the industry and likely to do so far into the future.

Created by Ken and Deena Altman, owners of Altman Plants, the scholarship fund is one of numerous efforts supported by the couple to improve education and research for the industry. This year the Altman family provided additional funds to allow expansion of the program to four recipients, deserving scholars all.

Mason Marshall, Texas A&M University

Where and when does the passion for plants and horticulture begin? For Mason Marshall—as for so many in the floral and floriculture industries—it all started with a high school job, working at a local nursery. He continued in that job for the first two years of college before transferring to Texas A&M University, where he graduated in December with a bachelor's degree in horticulture and a minor in plant breeding.

Currently, Mason is working toward a Master of Science in Horticulture degree from the same prestigious university. Along the way, however, he began to feel a tug toward floriculture. Along with taking classes and conducting research, he teaches hands-on floral design labs to undergrads in a wide variety of disciplines.

"I come from a family of educators," says Mason, "so I have a really big passion for teaching." That passion bore fruit last semester when two of his students switched majors to horticulture, thanks to the interest that he inspired in the subject. "One of them even started her own flower farm back home and started selling flowers at a flower market and on Facebook; it was extremely successful. This was my first semester teaching, so, seeing something like that come out of my floral class—that was probably one of the highlights of my spring."

On the research side, Mason is conducting studies with sunflower varieties suitable for cultivation either as garden ornamentals or as potted plants.

Rhiannon Newton, West Virginia University

Most horticulture majors find their way to the field midway through their undergraduate years. Rhiannon Newton began to zero in on horticulture quite early, as a career as a junior in high school.

"I always loved plants, but I didn't know about horticulture until I was browsing through a college website looking at majors," she remembers. "Right away I thought, that's the perfect fit for me."

Searching out the most challenging and interesting options for earning honors credit, she began doing research in her very first semester as an undergrad.

"Research is not so much advertised as an opportunity that's available to undergrads, but if you take initiative, you can do it," she explains. "It definitely sounded more relevant to my goals than taking another introductory class."

Now working on her Master's in Science in Horticulture, also from West Virginia University, Rhiannon Newton is already conducting research that holds out hope for both cost savings and enhanced sustainability. Her project explores the use of a novel soil amendment: iron-coated sand. As part of her project, Rhiannon works with an advisory panel that includes a greenhouse grower and a fertilizer company, ensuring the direct, practical relevance of her research.

Brooks Parrish, University of Florida

We caught up with Brooks Parrish on a day when he was working in the lab: taking tissue from the root tips of caladium plants, staining it and placing it on a slide, so that he could look at it under a microscope to determine whether this particular variant had doubled its chromosomes.

It was all part of a research project relating to the risks and benefits of micropropagation: the technique widely used in floriculture to produce plants that are free of disease and, when all goes well, genetically uniform.

Working with micropropagation and genetics might seem a far distance from how Brooks grew up, on a family farm that raised watermelons. But the variety of experiences working in horticulture is one of the things he enjoys about the field: **"I enjoy the lab work, but I love to be outside too. Especially in a breeding program, you can do inside work, but also be able to go walk in the field, use your senses, look for those beneficial traits. It's a great mix."**

Having graduated in December from the University of Florida with a Bachelor of Science in Plant Science, Brooks now anticipates his Master's in Science degree from the same institution in December of 2021 and is also working on a Ph.D. in plant breeding and genetics.

One of Brooks' career goals is to be a mentor to other young people who might aspire to work in horticulture.

Erin Pfarr, Rutgers University

Like Brooks Parrish, Erin Pfarr grew up on a family farm. "Flower gardening was a hobby my mother and I shared," she remembers. "Every summer, I exhibited cut flowers from my garden at the county fair."

Today, she is a Ph.D. candidate in plant biology at Rutgers, anticipating graduation in May 2022. **"I love the creative aspect of breeding flowers and ornamental plants," she wrote in her scholarship application: "it allows me to merge my passions for art and science."** At the University of Minnesota, where she graduated in 2015, she majored in horticulture, with an emphasis on plant breeding and genetics—and minored in art, focused on painting.

When it comes to research, floriculture and horticulture crops, she notes, are virgin territory, relatively speaking: the lack of existing research means the field is wide open for making significant gains. That's certainly true of dogwood (Cornus florida), the subject of her current research.

What does she hope to achieve in the future? "I'm definitely interested in disease resistance," she notes. "Whatever crop I end up working with, there's always going to be at least one disease or insect problem that's super hard to solve. So, if I can come up with solutions that will be durable and sustainable, that would be awesome. And I love the idea of coming up with a new type of cut flower or ornamental plant that might be out there, but we haven't realized it to its full potential."

That's where AFE scholarships come in: helping people, plants, and the entire horticulture and floriculture industry make big leaps toward reaching their full potential. To read the full article visit: **endowment.org/ecke-altman-scholars**

AFE Currently-Funded Research

Reduced labor, production efficiency, improved pest management practices and improved postharvest quality and efficiency lead to increased profits for growers. These challenges face the floral industry every day. The American Floral Endowment has supported 'industry-driven and industry-focused research for nearly 60 years thanks to the support of the industry.

Today, AFE focuses on the needs of the floral industry now and in the future by supporting the projects listed below. These projects address several key needs of the industry from thrips and Botrytis control to developing the next generation of anti-ethylene control to development of plants with resistance to powdery mildew and downy mildew.

We welcome industry suggestions about critical needs and solutions to nagging problems. AFE can help you. Have suggestions or need information on specific problems, contact our research coordinator, Dr. Terril A, Nell (tnell@afeendowment.org).

PLANT BREEDING AND GENETIC ENGINEERING

- **Developing Seed-Propagated Downy Mildew Resistant Impatiens:** Dr. Mark Bridgen, Cornell University
- **Use of CRISPR to Develop Powdery Mildew Resistance in Gerbera Daisy:** Dayton Wilde, Wayne Parrott, and Heather Gladfelter, University of Georgia

DISEASE MANAGEMENT

- **Finding Solutions to Pre-Harvest Botrytis Infection and Thrips Infestation of Cut Roses:** Drs. James Faust/JC Chong, Clemson University
- **Silence Mid-Gut Genes in Bemisia Tabaci to Biologically Control Whiteflies:** Dr. Heqiang (Alfred) Huo, University of Florida.

INSECT MANAGEMENT

- **Distinction of Arthropod-induced Stressors of Chrysanthemum Using Hyperspectral Imaging Technologies:** Dr. Christian Nansen, University of California, Davis
- **Integrated Management of Thrips Using New Generation Bioinsecticides and Commercially-Reared Natural Enemies:** Dr. Kevin M. Heinz, Texas A&M AgriLife Research
- **Manipulating Nutrient Inputs to Reduce Thrips in Flower Crops:** Dr. Rose Buitenhuis, Vineland Research and Innovation Centre
- **Ultraviolet Light for Integrated Pest Management of Western Flower Thrips:** Dr. Bruce Parker, University of Vermont
- **Evaluation of Alternative (non-fungicide) Treatments Including Biological Control Agents and Systemic Acquired Resistance-Inducing Compounds for Botrytis Control:** Jim Faust, Guido Schnabel, and Melissa Munoz, Clemson University

POST PRODUCTION

- **Evaluating Potential of Chitosan to Promote Botrytis Resistance and Plant Performance:** Dr. Ryan Dickson, University of Arkansas
- **Inhibitors of Ethylene Action for Improving Flower Longevity:** Dr. Rasika Dias, University of Texas at Arlington
- **Developing Protocols to Prevent Leaf Necrosis on Cut Flowers in the Post-Harvest Environment:** James E. Faust and Guido Schnabel

PRODUCTION TECHNOLOGY/PROTOCOLS

- **Adaptive Supplemental Lighting to Reduce Energy Costs in Greenhouses:** Dr. Marc van Iersel, University of Georgia
- **Development of Sole-Source Lighting Guidelines for the Production of Floriculture Transplants:** Dr. Erik Runkle, Michigan State University

Read More at endowment.org/currently-funded-research

2020 Deadlines

There's still time to apply for some of AFE's internships and grants!

- Floral Industry Internships – October 1st
- Retail Florist Continued Education Grant – October 1st
- Travel Grant for Arizona Retailers – October 1st
- Business Internships – Applications Accepted Year Round

Eye Tracking Study: Determining Consumer Preferences for Floral Designs Elements

Floral designers have long been taught that the most important attributes of a floral design are the elements of line, color, texture, pattern, form, space, and size. **Yet, little formal research has been conducted to determine which of these design elements are truly important to consumers and drive their purchasing behavior.** This project, co-funded by the Floral Marketing Research Fund and PMA, seeks to answer this overarching question and thereby enhance the likelihood of floral purchases in the future.

We know from experience that people tend to "buy with the eye" when purchasing flowers (and produce). Therefore, we are using eye-tracking technology to obtain the "eye view" of consumers when viewing the elements of a floral design while shopping. The study was conducted at the Human Behavior lab at Texas A&M University.

The study was segmented into three stages due to the complexity of the study. The three manageable stages that focus on specific elements of floral designs are:

Stage 1: Analysis of Line, Balance, Color, Species, and Price

- Demographics in this stage were weighted more towards millennials, as well as females and persons in the "white" race category, with relatively equal percentages of education levels, and half of the sample frame had incomes over $90,000 per HH.
- Mixed logit analysis of the discrete choices of arrangements indicated that, relative to the baseline (oblique line, asymmetry, polychromatic color harmony, and alstroemeria species
- *A Single Linkage Hierarchical Cluster Analysis* was conducted on the fashion and art choices, floral attributes, and demographics.

Stage 2: Analysis of Flower Form

- Even though floral designers can see the differences between $20 and $80 arrangements, consumers may not, based on the fact that their mean willingness to pay for the $80 floral arrangements is only $7.58 more than that of the $20 floral arrangements.
- At both the low and high price points, consumers placed the highest value in geometric designs as seen in the greatest increase in WTP for horizontal and asymmetrical triangle designs, which confirms that geometric design style is still highly preferred in the US as the typical American style. Loose vase designs had about same change in WTP at the two price points.
- The mean WTP for our $20 floral designs was $21.63. About half of the subjects were priced out of the market at this price point. The mean willingness to pay for the $80 floral designs was $29.21. At this price point, only 1.6% of the subjects were willing to pay more than $80. The majority of the subjects were priced out of the market.

Stage 3: Analysis of Flower Species

Species Substitution

- As no statistically difference was shown in either willingness to pay or beauty rating for any of the expensive and inexpensive species comparison group, we could conclude that the expensive species could be substituted with less expensive species to increase profit margin.
- We applied monochromatic color harmony for all the bouquets in this study, the bouquets with both expensive and inexpensive species (e.g. nerine and alstroemeria) was considered as mixed-species. The ones with only inexpensive species (e.g. alstroemeria only) was considered mono-species. As consumers rated them equally, consumers prefer and value mono-species and mixed-species bouquets in this study equally.

Flower Symmetry

- Roses were rated the highest on attractiveness followed by dahlia and ranunculus. Anthurium was rated the lowest. No demographic differences were found for any of these flowers. Round and radial flowers are most commonly seen in the nature. They are considered to be easy to recognize and the most aesthetically appealing. Cultural influence may also explain why roses have the highest perceived beauty value, as rose is the national flower of the United States. This may endow it with symbolic value for this culture.

To view the full report and executive summary visit:
endowment.org/eye-tracking

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Connecting Industry, Talent, and Opportunity

Posting a position or résumé on the AFE Career Center will connect you directly with floral industry job seekers and employers.

In the AFE Career Center, you will:

- Find Industry specific jobs and opportunities
- Upload your open position or résumé in minutes
- Search the database for your ideal candidate or job
- Tap into a growing national network of professionals
- **BONUS:** Leverage career development tools designed for floral industry job seekers

Launch your search today at

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