

# A Public–Private Networking and Partnership Model

## The Gatton Academy of Mathematics and Science

Derick B. Strode, EdD<sup>1</sup> , Julia Link Roberts, EdD<sup>1,2</sup>, and Lynette Breedlove, PhD<sup>1</sup>

**Abstract:** This article profiles public–private partnerships and networks established by the public, residential, STEM-focused Carol Martin Gatton Academy of Mathematics and Science in Kentucky. Authors discuss relationships and partnerships cultivated to extend student learning opportunities beyond what public support provides. The article focuses first on key partnerships that were imagined when the program was created, profiling how these relationships have evolved in the program’s first 12 years. These foundational partnerships include the program’s integration with Western Kentucky University and a model designed to partner with every school district in the state. The authors then take a wider view of program partnerships, spotlighting relationships within the program’s portfolio of philanthropic networking, external funding, and corporate partnerships. The network of partnerships profiled includes strategies to endow summer internship programs, need-based scholarship funding, and to provide a rounded arts education in a STEM-focused learning environment.

**Keywords:** special school programs, school partnerships, public–private partnerships, gifted education, STEM education, partnership model

This article spotlights the successes of a public, residential secondary program that has relied upon private partnerships to fuel opportunities for students. To be

clear, this article is not in favor of the privatization of public education resources. To the contrary, this article emphasizes what has been better phrased “partnership and networking” (K. Jones & Bird, 2000) by examining the relationships The Carol Martin Gatton Academy of Mathematics and Science in Kentucky has nurtured to enrich its abilities to serve students. The secondary education program was established in Kentucky in 2007 to serve as a beacon of excellence for highly-motivated,

STEM-interested 11th- and 12th-grade students to live and study in a carefully designed program. This article profiles partnerships and networks that the program has nurtured to enhance its bedrock of public funding and oversight. Spotlighted here are partnership efforts including, but not limited to, its organizational partner Western Kentucky University, school districts statewide, through philanthropic and private gifts, grant-funding agencies, need-targeted fundraising, and strategic corporate and nonprofit partners around the Commonwealth of Kentucky. This article lauds public education under public oversight while calling for imaginative thinking from public school and program leaders to identify community partners and create

networks in a town-gown tradition to provide new learning opportunities for students, and ultimately to serve the public good by providing students additive learning experiences that go beyond what public support alone offers.

This article is not limited to fundraising in its discussion of The Gatton Academy’s efforts. While fundraising partnerships have been a significant endeavor for our secondary program,

“...PUBLIC–PRIVATE  
PARTNERSHIPS  
AND NETWORKS  
ESTABLISHED BY THE  
PUBLIC, RESIDENTIAL,  
STEM-FOCUSED CAROL  
MARTIN GATTON  
ACADEMY OF  
MATHEMATICS AND  
SCIENCE IN KENTUCKY.”

DOI: 10.1177/1076217520963631. From <sup>1</sup>The Carol Martin Gatton Academy of Mathematics and Science in Kentucky and <sup>2</sup>The Center for Gifted Studies, Western Kentucky University. Address correspondence to: Derick B. Strode, EdD, The Carol Martin Gatton Academy of Mathematics and Science in Kentucky, 1906 College Heights Blvd., #71031, Bowling Green, KY 42101, USA; email: derick.strode@wku.edu.

For Article reuse guidelines, please visit SAGE’s Web site at [sagepub.com/journals-permissions](http://sagepub.com/journals-permissions)  
Copyright © 2020 The Author(s)

we have pursued partnerships beyond the traditional sense. We highlight the range of public–private partnerships that allow us to provide students everything from immersive, full-summer research internships, to need-based scholarships for international study abroad, to deliberately embedded arts experiences within our STEM-focused program. Our program’s public–private partnerships represent a broad portfolio carefully curated to enhance our students’ learning.

## Gatton Academy of Mathematics and Science in Kentucky

The Gatton Academy is the first of Kentucky’s public, residential STEM academies. Following the success of other states’ specialized, residential STEM programs, the Kentucky General Assembly included funding for the creation of a public Kentucky STEM academy in 2005 following nearly a decade of advocacy (Roberts, 2010). The program then opened in 2007. The program was imagined in the tradition of other state-supported, residential STEM academies—of which there are currently 15 with another slated to open in Alabama later this year (see Table 1). More specifically, among the public, residential STEM academies, there are different models that have been classified by various authors (Almarode et al., 2016; B. M. Jones, 2009; Roberts, 2013). The Gatton Academy was designed to operate in the “early college model” (Almarode et al., 2016) through a strategic partnership with Western Kentucky University.

Such early college academies are characterized by full immersion within an existing university’s structure. These programs provide residential, student support, and administrative staff of their own, but they rely upon the faculty of the university to teach classes and do not have faculty of their own. Students take only collegiate courses taught by the university faculty. B. M. Jones (2009) recognized this model for its efficient financial structure, as existing university resources are shared (p. 478). Because Gatton Academy students participate in the academic and extracurricular offerings of the university, it provides a fiscally efficient model for the Commonwealth’s public funding. The Gatton Academy’s designated public funding provides an operations budget to support accepted students’ scholarships and staffs the program with an admissions and recruitment team, a professional residential staff, and a professional administrative staff who support students in academic, college, and social-emotional counseling. In the tradition of the early college model, The Gatton Academy has no faculty of its own, relying instead on its partnership with Western Kentucky University (detailed in the next section).

### Partnership With Western Kentucky University

To serve as home of The Gatton Academy, a residence hall on Western Kentucky University’s campus named Florence Schneider Hall was renovated, expanded, and prepared between 2005 and 2007. The building was specially outfitted

to house a specialized population of younger students, with special considerations given to community spaces, study spaces, and program security. The program opened with 120 11th- and 12th-grade students from across the Commonwealth of Kentucky attending in August 2007. It is the partnership with Western Kentucky University that was the first critical relationship for The Gatton Academy. Every class taken at The Gatton Academy is for college credit, and students graduate the program having earned a minimum 60 hr of college credit.

In a mutualistic sense, Western Kentucky University benefits from the partnership through increased enrollment and through committed state funding for The Gatton Academy that provides tuition, room, and board scholarships for each admitted student. Perhaps most important, this partnership raises the academic profile for Western Kentucky University, bringing in additional driven, talented students to the university. The Gatton Academy benefits from this relationship by having a ready, talented faculty to draw from—most of whom hold PhDs in their fields. Gatton Academy students draw from a deep well of courses offered by the university, finding the right challenge for any level the individual has reached. For example, while every Gatton Academy student takes a mathematics course each semester, starting in at least college-level trigonometry, each individual student is assessed for best course placement before enrolling. Students begin in the course they are ready for, including trigonometry, calculus, multivariable calculus, linear algebra, and beyond. Learning becomes individualized and limitless through this partnership with Western Kentucky University. In this respect, the partnership with the university ensures there is no learning ceiling for Gatton Academy students.

The Gatton Academy has created experiential learning programs in collaboration with Western Kentucky University to extend deep learning opportunities beyond the classroom (Roberts et al., 2016). One such program is our mentored student research program that relies upon the expertise of Western Kentucky University faculty. Research at The Gatton Academy is optional for students, but the vast majority opt in to participate. Over the past 5 years, The Gatton Academy has averaged over 88% participation among its total student population. Students begin by surveying faculty interests and having direct conversations to choose the best tailored project and mentor. Once a student and mentor register their project with The Gatton Academy, they delve into a specific line of inquiry, research question, or experiment within their chosen field. University faculty share their expertise with their mentees. Over the course of four semesters (and sometimes an immersive summer), the projects and level of learning for the individual student mature. Students themselves become experts on their specific projects, and mentors provide students opportunities to travel to national, field-specific meetings to present their research findings. Gatton Academy students are regularly the youngest presenters at these meetings. These mentors also become advocates for the students, providing educational and

Table 1. State, Residential STEM Academies in 2020

School/program	State	Established	Grades	Website
Alabama School of Cyber Technology and Engineering	AL	2020	7–12	<a href="https://www.ascte.org">https://www.ascte.org</a>
Alabama School of Mathematics and Science	AL	1989	10–12	<a href="http://www.asms.net">http://www.asms.net</a>
Arkansas School for Mathematics, Science, and the Arts	AR	1991	11–12	<a href="http://www.asmsa.org/">http://www.asmsa.org/</a>
Georgia Academy of Art, Mathematics, Engineering, and Sciences <sup>a</sup>	GA	1997	11–12	<a href="http://www.mga.edu/Georgia-academy/">http://www.mga.edu/Georgia-academy/</a>
Illinois Mathematics and Science Academy	IL	1986	10–12	<a href="http://www.imsa.edu">http://www.imsa.edu</a>
Indiana Academy for Science, Mathematics, and Humanities	IN	1988	11–12	<a href="http://www.bsu.edu/academy">http://www.bsu.edu/academy</a>
Kansas Academy of Mathematics and Science <sup>a</sup>	KA	2006	11–12	<a href="https://www.fhsu.edu/kams/">https://www.fhsu.edu/kams/</a>
Carol Martin Gatton Academy of Mathematics and Science in Kentucky <sup>a</sup>	KY	2007	11–12	<a href="https://www.wku.edu/academy/">https://www.wku.edu/academy/</a>
Craft Academy for Excellence in Science and Mathematics <sup>a</sup>	KY	2015	11–12	<a href="http://www.moreheadstate.edu/craft-academy/">http://www.moreheadstate.edu/craft-academy/</a>
Louisiana School for Math, Science, and the Arts	LA	1982	10–12	<a href="http://www.lsmsa.edu">http://www.lsmsa.edu</a>
Maine School of Science and Mathematics	ME	1993	9–12	<a href="http://www.mssm.org">http://www.mssm.org</a>
Mississippi School for Mathematics and Science	MS	1987	11–12	<a href="http://www.themsms.org/">http://www.themsms.org/</a>
North Carolina School of Science and Mathematics	NC	1980	11–12	<a href="http://www.ncssm.edu">http://www.ncssm.edu</a>
Oklahoma School of Science and Mathematics	OK	1990	11–12	<a href="http://www.ossm.edu">http://www.ossm.edu</a>
South Carolina Governor's School for Science & Mathematics	SC	1988	11–12	<a href="http://www.scgssm.org">http://www.scgssm.org</a>
Texas Academy of Mathematics & Science <sup>a</sup>	TX	1987	11–12	<a href="http://tams.unt.edu">http://tams.unt.edu</a>

<sup>a</sup>Early college academies.

career guidance. They become letter writers for students when they apply to colleges or research-specific scholarships. The partnership between Western Kentucky University faculty mentors and The Gatton Academy propel the program's student research program.

Another way the Western Kentucky University faculty and The Gatton Academy partner is through external grants. Because The Gatton Academy model provides a source for targeted student programming, faculty regularly write Gatton Academy student participation directly into grant proposals. Examples

include a National Science Foundation (NSF)-supported program for science research, an NSF program for minority participation, and a partnership with the Qatar Foundation for student involvement with the Arabic language. The Physiology of Sleep and Assessment of the Costs of Experimental Sleep Loss in Arctic-Breeding Songbirds grant was funded by the National Science Foundation to a Western Kentucky University Department of Biology faculty member. The faculty member included the opportunity for Gatton Academy students and Barrow High School (Alaska) students to participate in a field research project during summers in northern Alaska to study circadian rhythms of migrating songbirds. Selected Gatton Academy students received full travel funding and gear to participate over the past three summers. This partnership provided immersive field research experiences for Gatton Academy students typically only accessible to a small sector of college students, hands-on learning opportunities, and a cross-cultural opportunity even within our own nation. Meanwhile, the Kentucky–West Virginia Louis Stokes Alliance for Minority Participation (LSAMP) program welcomes Gatton Academy students in their Western Kentucky University chapter, advised by a faculty member from the Western Kentucky University Department of Physics and Astronomy. This partnership provides Gatton Academy students from select minority groups the opportunity to present research in supportive settings both at the regional and national levels and network with experts who are setting goals for Gatton Academy students to pursue terminal degrees in their fields. Finally, a faculty member in the Western Kentucky University Department of Modern Languages who teaches Arabic has included The Gatton Academy in opportunities funded by the Qatar Foundation. For a select cohort of Gatton Academy students who study Arabic each semester through the program's STEM + Arabic program, the Qatar Foundation has supported the establishment of a Gatton Academy Honors Arabic Society and a Gatton Academy Arabic Debate team. The Qatar Foundation funded travel costs for Gatton Academy students to participate in a recent international debate in Doha, Qatar where four students competed with talented students from around the globe. This partnership is ongoing. The Qatar Foundation recently provided the Western Kentucky University Arabic faculty member a grant for a cultural and language immersion summer program in Qatar for a group of up to seven students. This partnership provides Gatton Academy students opportunities to improve their language study through concentrated practice as they prepare for debates, cultural understanding as they travel in the Middle East, and immersion. These three grants and the incredible opportunities they provide students are examples of the types of external relationships that become possible because of The Gatton Academy's partnership with Western Kentucky University faculty.

### Partnership With Sending Schools and Districts

A second key partnership in The Gatton Academy's model is with sending high schools and school districts around the

Commonwealth of Kentucky. In a unique model even among peer statewide, residential STEM academies, Gatton Academy students stay registered in their sending public high schools where they have previously attended ninth and 10th grades. By creating The Gatton Academy in this way, the program is an extension of every public school district in the state by serving as a destination where the learning ceiling can be removed for every Kentucky school's most advanced students. The partnership between The Gatton Academy and schools across the Commonwealth allows sending public schools and districts to retain their top students' scores and accolades. They also retain state-designated per-pupil funding for students when they matriculate to The Gatton Academy for 11th and 12th grades. Because of these arrangements, schools are not penalized in any way when a student decides to attend The Gatton Academy. The school and district retain many of the structural benefits of having the high-achieving student enrolled, while also allowing the student to pursue the advanced opportunities matching their readiness.

This strategic partnership with high schools and districts statewide has resulted in predominantly welcoming access for The Gatton Academy to recruit students within the public schools. Teachers and administrators statewide serve as advocates and ambassadors for The Gatton Academy, recognizing and then pipelining good candidates. The partnership allows every school district in the state reason to celebrate when one of their own is admitted to the statewide program. Beyond the academic sharing being in students' best interests, The Gatton Academy also allows students to be productive community members both at Western Kentucky University and in their home communities. At The Gatton Academy, students are provided in-program activities, including Gatton's prom and commencement, and students have access to nearly the full breadth of extracurricular and recreational activities offered by Western Kentucky University. Meanwhile, their physical enrollment and residential life on Western Kentucky University's campus does not preclude them from being involved in their sending high schools or home communities. Students maintain involvement in their home communities by going home once-per-month for mandatory closed weekends, participating in their sending high school prom and commencement, as well as representing their sending school in some academic competitions. Both strategic, foundational partnerships, with Western Kentucky University and with every school district in the state, serve as models for public–public partnerships.

### The Gatton Academy as a National STEM Model

The Gatton Academy is a member of the National Consortium for Specialized STEM Schools (NCSSS), made up of over 100 high schools and programs who share a commitment to providing advanced STEM learning opportunities, providing students access to research, and paving the way to greater science learning through internships, STEM summer programs, and STEM-focused competitions (Bonds, 2013). Because of their high-ability students and thoughtful, research-driven

pedagogical strategies focusing on hands-on, applied, and experiential learning, the Consortium serves as a repository of exemplar models. The schools and programs of the Consortium have been referred to as the “crown jewels” (Subotnik et al., 2010) of districts and states and serve as beacons of excellence that lawmakers look to for developing tomorrow’s STEM leaders (Bonds, 2013).

Since its inception, The Gatton Academy has been imagined as a leader among programs. Our program is a top-sought destination by students from around the Commonwealth. We strive to be a model for the nation and internationally for what is possible in public education. Our program’s model has been named America’s Best High School in 2012 and 2013 by *Newsweek* and the *Daily Beast* (Newsweek, 2013; Streib & Yarett, 2012). In 2014, our program was once again named America’s Best High School by the *Daily Beast*, in addition to being named America’s Most Rigorous High School (The Daily Beast, 2014). Recently, The Gatton Academy made its 10th consecutive appearance on Jay Mathews’ list of top-performing schools with elite students (Mathews, 2019). Among program leaders in The Gatton Academy, our philosophy has been to address good ideas with the mantra, *Why not?* A small program, our vision for what our program can become is impossible if we work alone. Our partnerships are cornerstone to what we have accomplished thus far since our 2007 opening and for the vision of what our program can be. Our footprint is ever-expanding. As new ideas come, the question *Why not?* is posed, and new partners are enlisted to help create fresh initiatives for students.

## The Bill Gatton Legacy

No private partnership has been as substantial or directly tied to The Gatton Academy’s success than the relationship with program benefactor Carol Martin “Bill” Gatton. Gatton was born in the nearby rural farm community of Bremen, KY, in 1932; went on to earn wealth operating car dealerships in Kentucky, Tennessee, and Texas (Derick—Murfreesboro and Austin); and became an educational philanthropist later in life (maybe not later). In 2006, as The Gatton Academy was preparing for its initial opening, Mr. Gatton presented the program with a US\$4 million gift for student programming. The program was named for his honor at the opening ribbon-cutting in August 2007.

That initial gift has served as the impetus for creative student programming that extends learning opportunities beyond The Gatton Academy’s public support. Mr. Gatton’s willingness to let The Gatton Academy decide how to structure programs using his gift has resulted in endowed, perpetual programs ready to serve each generation of Gatton Academy students. This philanthropic spirit follows a “traditional view” (Saltman, 2010, p. 2) outlined originally by great American philanthropist Andrew Carnegie in *The Gospel of Wealth* (1889) and promoted by educational philanthropy researchers (Saltman, 2010; Saunders-Hastings, 2018) for donors to both designate wealth to organizations and remain largely hands off in the discretion of how it is utilized. For instance, the Gatton Research Internship

Grant was created in 2010 through Mr. Gatton’s initial gift after the need was identified to provide more immersive research experiences during the summer. This need for more summer intensive funding emerged as the program’s research program developed, and The Gatton Academy was fortunate to have the funding in hand to create the needed Gatton Research Internship Grant program. The program offers grants to up to 20 Gatton Academy students each year who are between their junior and senior years to support summer research internships across the Commonwealth, the United States, and the world (the date was mentioned above). By providing funding, the program directly creates research internships that otherwise would not have existed for Gatton Academy students. In its first 10 years, the program created 170 research internships for Gatton Academy students to study STEM problems in their areas of interest in devoted, full-time research settings. While many of the placements are at Western Kentucky University, where students dive more deeply into their ongoing school-year research project, other placements for Gatton Research Internship Grants have included the Los Alamos National Laboratory, Argonne National Laboratory, Vanderbilt University, and Case Western Reserve University.

Each year, the research funded by the Gatton Research Internship Grant program yields significant outcomes for recipients. Students have been recognized by the Regeneron Science Talent Search (the nation’s premier competition for high school students who conduct research), the Intel International Science and Engineering Fair (sponsored by Regeneron in 2020 going forward), and by the Siemens Competition (which ceased in 2017). With their mentors’ guidance, it is commonplace for recipients of the Gatton Research Internship Grant to take their research to national conferences for presentation and even publish their work in scholarly journals. Because Gatton Academy students are enrolled full-time as Western Kentucky University students as well, they compete among WKU students for nomination spots to the Barry Goldwater Scholarship and Excellence in Education—the top scholarship for college undergraduates with STEM research interests.

Another program created from Mr. Gatton’s initial gift is the program’s Gatton Need-Based Study Abroad Scholarship. The Gatton Academy established a robust study abroad program to facilitate students’ development as global citizens. The Gatton Academy has offered a noncredit travel opportunity to Western Europe each year since opening. Based off popularity and success of this early program, in 2011, The Gatton Academy launched faculty-led study abroad opportunities through its partnership with Western Kentucky University to Costa Rica and England that are now each in their 10th annual iterations. These are all short-term programs ranging from 13 to 23 days that The Gatton Academy hosts in summer and winter sessions. Over the past 5 years, The Gatton Academy has averaged over 90% of its graduates studying abroad with the program during their 2-year enrollment and has formally articulated the goal that every student with the desire should have the opportunity to travel. The Gatton Need-Based Study Abroad Scholarship is an

important component that fuels the ability to live up to this stated virtue. It allows our program to level the playing field for students and families who otherwise could not afford such a learning opportunity. Depending on level of need, the Gatton Need-Based Study Abroad Scholarships provide up to full funding plus spending money for the students with greatest financial need to study abroad.

After The Gatton Academy's initial success, the Kentucky General Assembly agreed in 2014 to increase public funding to support the program's growth from 120 to up to 200 students. While these public funds were committed to support ongoing operating costs of an expanded program, a challenge was issued that private funds would have to be raised to physically expand the building to house an additional 80 students. Again, Mr. Gatton stepped up as partner, providing the lead gift for the US\$10 million physical expansion project that took place from 2014 to 2015.

The relationship between Mr. Gatton and The Gatton Academy has always been a partnership. As he provides a mechanism for opportunities through his giving, the program works to keep Mr. Gatton informed by providing an annual book showcasing students who have performed research internships he has funded (available online at <https://www.wku.edu/academy/academics/rig/index.php>). Mr. Gatton, meanwhile, has always accepted the invitation to be a regular speaker to our students and Gatton Academy community, whether at public events or at commencement. His legacy is written on the experiences of countless Gatton Academy alumni and current students.

### Partnership With the Center for Gifted Studies

A pivotal relationship for The Gatton Academy's success is that with the WKU Center for Gifted Studies. Founded in 1981 by Dr. Julia Link Roberts at Western Kentucky University, the Center has become an international leader in gifted programming for students and their parents, a training and education center for gifted educators for ongoing professional development throughout career practice, and a thought-leader in the field of gifted education advancement. The Gatton Academy is itself an outgrowth of the Center. The program was first proposed in the late 1990s, led by the Center director and co-written with a WKU faculty member. The program that would eventually become The Gatton Academy resulted after a decade of advocacy from the Center and its supporters. Their sustained efforts led to the eventual public funding of the program.

The Gatton Academy and the Center for Gifted Studies have been the closest of partners since and share office space within The Gatton Academy's residential hall. In particular, the student and parent programming the Center offers is essential to The Gatton Academy's ongoing success. Home to student programs such as Super Saturdays (first through eighth grades), Camp Explore (first through third grades), Camp Innovate (third through fifth grades), the Summer Camp for Academically

Talented Middle School Students (sixth through eighth grades), the Verbally and Mathematically Precocious Youth (seventh through 10th grades), and Kentucky's Duke TIP Recognition Ceremony (seventh grade), the Center brings thousands to WKU's campus each year for learning programs that expose both students and parents to additional opportunities to accelerate learning for gifted students. This includes potential future enrollment at The Gatton Academy itself. For many eventual Gatton Academy students, it is through a Center program or camp that they and their parents first learn about the program. These students form early goals to attend The Gatton Academy, working hard to advance their own learning opportunities to prepare for the rigor ahead.

### Other Private Giving Partnerships

Friends and supporters of The Gatton Academy assume all forms of relationships. The Gatton Academy continuously cultivates relationships with alumni, parents, and community members who care about gifted and STEM education. In other initiatives, because our public funding supports our dedicated mission to providing STEM opportunities to the Commonwealth, The Gatton Academy has relied on supporters to deliberately draw the arts into each student's experience as well. Finally, The Gatton Academy relies upon great partnerships with funding agencies and foundations whose missions overlap with the program's. Each of these types of relationships ensure that Gatton Academy students receive advanced opportunities beyond what our public support provides.

### Individual Friends and Supporters

The Gatton Academy maintains an extensive list of partners who support the program through private giving. Because of The Gatton Academy's partnership with Western Kentucky University, there is a shared effort both internally from Gatton Academy leadership and from the University's Philanthropy department to pursue development opportunities for the program. Alumni and parents are among the many community friends who support the program.

The Gatton Academy is still a young program, with its oldest alumni being 2008 high school graduates. To date, The Gatton Academy has concentrated alumni efforts on maintaining ongoing relationships and tracking their educational and young professional pursuits rather than fundraising. At current, the oldest alumni of the program are finishing graduate and professional school or are young in professional careers. The Gatton Academy has worked to engage alumni in a variety of ways, including through social media networking and spotlights, alumni meet-up and reunion events, through The Gatton Academy's recent 10-year celebration, and through individual tracking. Alumni giving is in its youth at The Gatton Academy, but is already underway as an important contributing partnership for new opportunities.

Alumni and their parents were among the individual friends and supporters who contributed to The Gatton Academy's

physical expansion of its building in 2014 and 2015. While Mr. Gatton provided the lead gift to raise the necessary US\$10 million of private funds to expand the program's physical infrastructure, the program's network of alumni, parents, friends, and community supporters stepped up to help the program surpass its fundraising goal. Other major gifts were provided by Sue and Brown Badgett, Ben and Janine Cundiff, the J. Rogers Badgett Sr. Foundation, Mike and Julie Muscarella, Daksha and Prabod Mehta, and Bill and Sue Hamilton.

## The Arts

While The Gatton Academy is Kentucky's premier destination for advanced STEM learning opportunities, the program strives to provide a balanced and rounded education. After all, many students whose career interests are in STEM have extraordinary talents and interests in the arts, as well. To this end, while public financial support provides the essential services so that the program can provide exceptional STEM learning, the program relies upon private partnerships to enhance learning in the arts through a number of ways.

The Unplugging with the Arts program began in 2016 in collaboration with the Speed Museum in Louisville—Kentucky's largest art museum. The program immerses students in an eclectic range of arts in and around Louisville for 3 days. This includes multiple workshops in the museum itself, interacting with different art curators and art education professionals through the museum. Students learn sketching techniques and practice in the galleries. They take a writing workshop and visit a Kentucky collection within the museum to try to capture in essay and poetic forms essences of their own Kentucky experience. In addition, they play gallery games with museum staff to interact more intimately with pieces, learning that museums do not necessarily have to be quiet, reverent spaces, but should be fun. Students handle original artifacts that museum curators select and then work in teams to design their own interpretation. In the Speed Cinema, the film curator handpicks a film for the students and gives introductory remarks to draw connections. The arts immersion program is hosted by the museum, but takes place throughout greater Louisville. Renowned sculptor and Louisville resident Ed Hamilton meets students at one of his pieces on display in a museum gallery before the students load up and go to two of his public installations in downtown Louisville. There, Hamilton stands with his *York* and *Lincoln* sculptures describing his process and talking about the choices he made as an artist to create these works. Students also visit the Bernheim Forest, where outdoor art is on display alongside the curated arboretum and large, protected forest. After a grounds tour with a ranger, a Speed Museum artist leads an outdoor watercolor workshop. Other activities include workshops from a local musician, an activism workshop where students make their own canvas bags to take home, a visit to a local theater company, behind-the-scenes discussions with stage artists at the Kentucky Center, and an archeological dig at a historic settlement.

The Unplugging with the Arts program is a partnership with the Speed Museum and approximately one dozen Kentucky arts organizations and artists. It is also a partnership with private supporters of The Gatton Academy who fund the program each year. These individuals are arts and arts education proponents. The program is designed for 24 rising seniors to take part at the beginning of summer when they are between their 11th and 12th grade years at The Gatton Academy. All students are invited, and the first 24 to apply are accepted. Because of the generous private partnerships that fund the program, it is accessible to any student who is among the first to apply. Students pay only a deposit which they get back upon checking into the Unplugging with the Arts program.

Another example of how private support has been leveraged to bring arts into The Gatton Academy was a 2019 fundraising campaign that looked to our community to jointly raise money for a grand piano for the program's lobby. Many Gatton Academy students are talented musicians. A used grand piano had been given to the program when it opened in 2007, and for a dozen years, students played it on a daily basis. However, that much-loved piano was damaged and had irreparable tuning issues which were getting worse as time passed. Meanwhile, a much-beloved professor who had taught 335 Gatton Academy students—most on an immersive summer study abroad in England over the years—announced his retirement. The professor was also a jazz pianist. The Gatton Academy took the opportunity to launch a fundraising campaign through our partner Western Kentucky University's Philanthropy department to replace the piano with a new Professor Walker Rutledge Piano. The campaign featured short, 1-min videos announcing the campaign's launch, mission, and call to action; a social media rollout; and a simple website where alumni, parents, and program supporters could make a gift. All alumni received messages about the fundraising campaign, but former students of Professor Rutledge received additional, direct messaging to connect his story and their experiences with him to the campaign. Run as a micro-campaign for 1 month during May 2019, over US\$15,000 was raised from 75 alumni, parents, and friends. With a matching private gift, well over US\$30,000 was available for the installment of the Professor Walker Rutledge Piano that was delivered and dedicated in August 2019.

This model of partnering with alumni, parent, and community friend support through a targeted fundraising campaign is one The Gatton Academy has used in other instances. Every student who has studied abroad on our biodiversity field research program in Costa Rica over the past 10 years has met and taken art classes from Cloudbridge Nature Reserve arborist and artist Linda Moskalyk. Moskalyk is a conservation-activist and painter whose work focuses on the ecosystems being protected at Cloudbridge Nature Reserve—incorporating literal pieces of the forest into her work, such as leaf skeletons. With over 200 Gatton Academy students who have traveled to Cloudbridge, know the ecosystems and topography there well, and know Moskalyk, The Gatton Academy commissioned a large painting that is now on display

in the lobby to draw themes of science, conservation, natural beauty, and art into our students' daily lives. Through a similar micro-fundraising campaign as the grand piano, the subpopulation of alumni who had traveled to Costa Rica and who knew Moskalyk personally were challenged to jointly raise the money for the painting. The fundraising, purchase, and installation of the painting all took place in 2016.

A final strategy The Gatton Academy has used to maximize private partnerships to bring arts into students' education is by articulating and repeating a vision: the program strives to fill the residential space with donated art. The Gatton Academy's home is Florence Schneider Hall, a 1929 limestone-clad Georgian Revival building. When the building was remodeled between 2005 and 2007 for The Gatton Academy's opening and when it was expanded in 2014–2015, great caution was taken to provide comfortable, modern living and study spaces while maintaining the building's historical features and classic, aesthetic appeal. Early program leaders set the vision to let friends of the program know about the goal to fill the space with art. To date, dozens of pieces of art have been donated to The Gatton Academy and hang on the walls of student common areas and public spaces. These include pieces from Kentucky artists like Neil Peterie, Leo Fernandez, and Ed Hamilton. Most recently, in 2019, a local attorney and art collector donated 40 pieces of art to The Gatton Academy—including 29 pieces from local-born artist Joe Downing. Downing's work was created primarily in France over a long lifetime, and his work is highly regarded as an example of American modernists. Striving to inspire our students' moods, thinking, and creativity, the vision for filling The Gatton Academy's halls with art is an ongoing partnership with our community and private supporters.

### Grant Funding

The Gatton Academy has sought partnerships for targeted opportunities and has received several grants since its early days, which include grants from AT&T, Ashland Oil, Toyota, and the National STEM Cell Foundation. These funding opportunities have extended what The Gatton Academy could offer its students as well as others in the larger community.

A gift from AT&T Kentucky in 2012 endowed the AT&T Innovation and Leadership Speakers Series for The Gatton Academy. Thanks to this partnership, leaders who have reached great success in their field are invited to speak directly to Gatton Academy students on an annual basis. The Speakers Series exposes Gatton Academy students to career trajectories from a variety of leaders. It helps Gatton Academy students understand ways to innovate and imagine to create their own leadership future. It also provides Gatton Academy students yet another way to grow into young professionals, pitting them in direct conversations with leaders to discuss big ideas. This important partnership extends yet another learning opportunity to Gatton Academy students that is not possible through public support alone.

Early on, in the planning stage for The Gatton Academy, funding from Ashland Oil and Toyota supported opportunities

to disseminate information about The Gatton Academy before its opening. The travel and marketing materials were very important before there was a renovated building to visit and prior to having students and parents who could describe their experiences at The Gatton Academy as it had yet to open.

Through the National STEM Cell Foundation, The Gatton Academy and the WKU Center for Gifted Studies are grant recipients allowing The Gatton Academy to give back to middle school science teachers nationwide. The National STEM Scholar Program accepts 10 middle school science teachers each summer who are hosted by The Gatton Academy and the Center on Western Kentucky University's campus to engage the teacher-scholars in science projects they can take to their classrooms, creates relationships between classroom teachers and national science leaders, and results in an outcome for the teacher-scholars themselves. Teacher-scholars receive full funding for travel, mentoring, and share their own projects at the National Science Teachers Association annual meeting. This partnership with the National STEM Cell Foundation is another example of how The Gatton Academy serves as a model institution nationally. This partnership has also led to promotion of STEM education and possibilities in Kentucky. For example, The Gatton Academy and The Center partnered with the National STEM Cell Foundation in September 2019 to provide a live, National Aeronautics and Space Administration (NASA) downlink with astronauts aboard the International Space Station (ISS). This event was broadcasted throughout Kentucky classrooms, with several hundred students from across Kentucky in the digital theater at the Kentucky Science Center where questions were posed directly from students to astronauts on the ISS. Partnerships such as the one with the National STEM Cell Foundation serve to engage many more students with science education than The Gatton Academy's public funding alone can reach.

### WKU Sisterhood Research Internship Grant

Building from the success of the already-established Gatton Research Internship Grant, additional grant funding allowed the program to expand in 2016. The WKU Sisterhood is a group of women who pool their philanthropic resources together each year to fund a project or projects that fit their shared values and advance the mission of Western Kentucky University. The Gatton Academy wrote a grant application in 2016 proposing to create additional, targeted research internship grants for young women from underrepresented backgrounds. After becoming a finalist and presenting the idea, The Gatton Academy was ultimately funded for the WKU Sisterhood Research Internship Grant program. This partnership now creates more internships for Gatton Academy students each summer than ever before.

### Corporate Partnerships

The Gatton Academy is increasingly calling upon private partners in the corporate sector to support student opportunities. The Gatton Academy's ultimate goal is to



accelerate learning for tomorrow's STEM leaders who will lead new innovation and advance Kentucky's economy. Having students learn from and collaborate with today's STEM leaders is a direct strategy to pipeline Gatton Academy talent to corporate partners statewide. To this end, in 2019, The Gatton Academy launched a new program called the Gatton Sponsored Internship Program. Companies around the Commonwealth are called upon to consider hosting a full-time Gatton Academy student intern for at least 8 weeks over summer. The program is structured by The Gatton Academy to make for a low-lift commitment for our partners. The company provides a short description of the internship duties and the skills required of qualified candidates. The Gatton Academy then advertises the internship internally to students, collects resumes and cover letters from interested individuals who meet the company's criteria, and delivers bundled applications to the company. The company then can interview as few or as many of the applicants as they wish, ultimately deciding to hire, or not, an intern for summer. The program is a commitment-free endeavor for corporate partners until they find a student they want to bring on as an intern. The company then provides a US\$3,000 gift that supports the student's summer expenses, including a college credit in an internship co-op course, summer housing, transportation, and food. The company provides mentorship to the student through the internship and then evaluates the student's growth and contribution at summer's end. In its first summer, three internships were created that otherwise would not have existed with public funding alone. The Gatton Academy is working to scale the program's reach over the next several years by bringing on new partners. This engagement and partnership with Kentucky's private sector is a direct response to the call for more public-private partnerships. The Gatton Sponsored Internship Program is directly tied to the program's mission while serving as a model effort to extend student opportunities beyond public investment.

## Conclusion

Thirteen years after The Gatton Academy's dedication as Kentucky's public, residential STEM academy, the program has found incredible success. While much of that success is owed to the public investment that the Commonwealth of Kentucky provides, the program has also endeavored to create a broad portfolio of public and private partnerships. Some of these partnerships are key to The Gatton Academy's day-to-day operations, such as the embedded organization within Western Kentucky University, our shared model with every public school district across the state, and our in-house partnership with The Center for Gifted Studies. Our private partnerships create opportunities beyond the scope of our public support, rounding students' education in arts and beyond the school year through internships and scholarships for study abroad.

The creation of a program focused on partnerships has been one of The Gatton Academy's greatest attributes. By establishing a routine of building partnerships and networking, The Gatton

Academy has matured into an entrepreneurial and imaginative organization consistently seeking growth opportunities. Our partnerships keep the program focused on the Commonwealth it serves. The environment of partnership and networking nurtures a program-wide imagination and creativity for administrators and students alike.

## Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## ORCID iD

Derick B. Strode  <https://orcid.org/0000-0003-0729-8332>

## References

- Almarode, J., Subotnik, R. F., & Lee, G. M. (2016). Specialized STEM high schools. *Gifted Child Today*, 39(4), 181–182. <https://doi.org/10.1177/1076217516662099>
- Bonds, C. (2013). A perspective from the national consortium of specialized STEM schools. *Gifted Child Today*, 39(4), 183–184. <https://doi.org/10.1177/1076217516662962>
- Carnegie, A. (1889). *The gospel of wealth*. Carnegie Corporation of New York. <https://www.carnegie.org/about/our-history/gospelofwealth/>
- The Daily Beast. (2014, August 27). *America's top high schools, 2014*. <https://www.thedailybeast.com/americas-top-high-schools-2014>
- Jones, B. M. (2009). Profiles of state-supported residential math and science schools. *Journal of Advanced Academics*, 20(3), 472–501. <https://files.eric.ed.gov/fulltext/EJ860958.pdf>
- Jones, K., & Bird, K. (2000). "Partnership" as strategy: Public-private relations in Education Action Zones. *British Educational Research Journal*, 26(4), 491–506. <https://doi.org/10.1080/713651572>
- Mathews, J. (2019). *Public elites list*. Jay Mathews Challenge Index. <https://jaymathewschallengeindex.com/public-elites-list/>
- Newsweek. (2013, May 6). *2013 America's best high schools*. <https://wkunews.wordpress.com/2013/05/06/gatton-top-ranking-2013/>
- Roberts, J. L. (2010). Lessons learned: Advocating for a specialized school of mathematics and science. *Roeper Review*, 32(1), 42–47. <https://doi.org/10.1080/02783190903386876>
- Roberts, J. L. (2013). The Gatton Academy: A case study of a state residential high school with a focus on mathematics and science. *Gifted Child Today*, 36(3), 193–200. <https://doi.org/10.1177/1076217513486649>
- Roberts, J. L., Breedlove, L., & Strode, D. B. (2016). Experiential learning at The Gatton Academy of Mathematics and Science in Kentucky. *Gifted Child Today*, 39(4), 228–235. <https://doi.org/10.1177/1076217516662097>
- Saltman, K. (2010). *The gift of education: Public education and venture philanthropy*. Palgrave Macmillan.
- Saunders-Hastings, E. (2018). Plutocratic philanthropy. *Journal of Politics*, 80(1), 149–161. <https://doi.org/10.1086/694103>

Streib, L., & Yarett, I. (2012, May 28). America's best high schools: Our report card on the 1,000 that make the grade. *Newsweek*, 34–37.

Subotnik, R. F., Tai, R. H., Rickoff, R., & Almarode, J. (2010). Specialized public high schools of science, mathematics, and technology and the STEM pipeline: What do we know now and what will we know in 5 years? *Roeper Review*, 32(1), 7–16. <https://doi.org/10.1080/02783190903386553>

## Bios

*Derick B. Strobe is the assistant director, Academic Services, at The Carol Martin Gatton Academy of Mathematics and Science in Kentucky. Strobe's work focuses on integrating experiential learning and high-impact academic practices at The Gatton Academy. Strobe holds a BA in English, an MAE in Student Affairs in Higher Education, an MA in English, and an EdD in Educational Leadership, and is recipient of awards including the Regeneron Science Talent Search 2019 Teacher of Merit, 2018 University of Chicago Outstanding Educator, and 2018 WKU Professional Staff Excellence Award Winner.*

*Julia Link Roberts is president of the World Council for Gifted and Talented Children and on the boards of the Kentucky Association for Gifted Education and The Association for the Gifted, an affiliate of the Council for Exceptional Children. She directs summer and Saturday programming. Her honors include the Acorn Award, the Palmarium Award, the NAGC Service Award, and the Ann F. Isaacs Founder's Memorial Award.*

*Lynette Breedlove directs The Gatton Academy of Mathematics and Science at Western Kentucky University. She has served gifted students in a variety of public school roles including classroom teacher, GT facilitator, and central office administrator. She is active in state and national advocacy organizations, including Texas Association for the Gifted and Talented (TAGT), Kentucky Association for Gifted Education (KAGE), National Association for Gifted Children (NAGC), and The Association for the Gifted (TAG) for which she serves as board president. She holds an MA in Gifted and Talented Education and a PhD in Educational Psychology focusing on Intelligence, Creativity, and Giftedness.*

Copyright of Gifted Child Today is the property of Sage Publications Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.