F.E.F. FOCUS

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President's Message

Dr. Lawrence Morehouse
President & CEO

From inception, the mission of the Florida Education Fund (FEF) has been to produce scholars and well-trained professionals who will lead communities and forge pathways to self-reliance, innovation and creativity. Our efforts towards the mission have paid great dividends, with nearly 82% of McKnight Doctoral Fellows completing their Ph.D. programs within 5.5 years, two years earlier than the national average, and 98% of our precollege students earning admission to colleges and universities. With this critical mass of successful students, we can help transform communities both at home and abroad.

In fact, in this edition of the *Focus* you will read about matriculating McKnight Fellow Janine Parker, who has done just that through her cutting edge, international work advocating for global food security, particularly throughout the Western Hemisphere. Because of the quality of her research and its innovative promise, Janine has received numerous awards from both domestic and international organizations. She also has been called upon time and again by her professors to travel overseas, most recently to help improve the quality of agriculture education, one of her professional goals.

As you will read here, she shares that goal with McKnight graduate Dr. Sean Jones, who currently works as the Senior Policy Analyst for the White House Office of Science, Technology, Engineering and Mathematics and Program Director in the Division of Material Science Research at the National Science Foundation. One of Dr. Jones' primary duties is to help the United States improve STEM education generally, but also to pay special attention to increasing the number of Hispanics and African American students choosing to study STEM.

This special attention is warranted because members of racial and ethnic minority groups are projected to become the majority of America's population in the next 30 years. Currently, however, they account for only 28 percent of STEM workers. Women make up nearly half of the total workforce, but they constitute only 24 percent of STEM jobholders. To meet growing demands from industry for more STEM-qualified employees, our education system must develop talent from all groups, which will broaden the participation of underrepresented groups and women in STEM fields.

For the last ten years, the FEF has attempted to help broaden participation by offering programs that increase exposure to STEM education and careers for our pre-college students as early as in their middle school years. In those programs, as this edition's story on our Miami-Dade robotics camp reveals, we often must reject educators' frequent practice of underestimating the ability of our students to master complex subject matter. We thus continually seek out staff who will help ensure that our curriculum is not "dumbed down" but is instead challenging enough to prepare our students to take the rigorous courses necessary for careers in STEM.

As is evident from these stories, our ability to move forward is strengthened when we nurture the potential of students and invest fully in human capital, offering support where necessary, embracing the inevitability of change, and being willing to make timely adjustments.

Seasoned Scholars Advise New Class of McKnights at the Annual Orientation

Inside this Issue:

Nationally, nearly half of all students who start doctoral programs fail to earn terminal degrees, which is why the FEF annually brings its newly selected Fellows to Orientation. Convening June 20-21, the 2014 McKnight Doctoral Fellows Orientation introduced 54 new Fellows to information and resources to establish a strong foundation for the journey ahead. Throughout the meeting, Fellows received invaluable advice from, among others, three seasoned scholars who for years have championed McKnights on their campuses.

Dr. Max Poole

Dr. Max Poole

Dr. Max Poole, former Associate Dean of Graduate Studies at the University of Central Florida and current Graduate School Dean of Appalachian State University, spoke at the Friday opening session. He began by encouraging the Fellows to participate fully in professional development and academic support programs offered by

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Dr. Sean Jones Increases Minority Participation in STEM During White House Stint

Dr. Sean Jones' friends told him he should be a teacher. He, however, assumed he would become a chemical engineer and start his own business. Then, in his junior year studying chemical engineering at Clemson University, Jones took a course in ceramic (now materials science) engineering, studying capacitors and superconductors. In contrast to his other classes, his ceramics professor allowed leeway for exploration in the lab. Intrigued, Jones changed his major and later graduated with a ceramic engineering degree.

Dr. Sean Jones

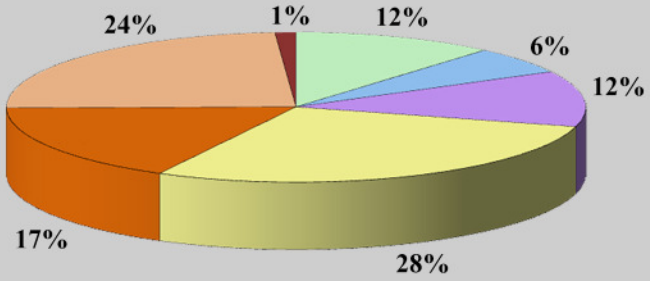
After graduating, Jones worked two years as lead engineer at Bell Labs/Lucent Technologies, where he had interned as an undergrad, before entering a graduate program at the University of Florida. There, Jones befriended McKnight Doctoral Fellow William Byrd, who urged him to pursue a Ph.D. and apply for a McKnight Fellowship.

When Jones became a McKnight Doctoral Fellow in 1992, eight years after the State initiated the MDF Program, matriculating Fellows were plentiful, and he observed several things about them. First, many Fellows, like him, were non-traditional, mature students who brought their life experiences of work, family, and community with them to academia. Second, like him, they were committed to helping their communities, a mission he shares with his mother, an activist in their Orangeburg, South Carolina, hometown. Third, McKnights were leaders and mentors among minority students on Florida campuses, and, at UF, founded the Black Student Organization and the Black Male Development Circle. In fact, the latter organization was co-founded by Jones and his friend William Byrd. Finally, but importantly, McKnight, with its Council of Elders and camaraderie, made him feel that he was a part of a real family. "This," he said, "was for me."

After earning his Ph.D. in 1997, Jones worked in the business sector as well as academia, helping to start Norfolk State University's engineering program. It was there that he became familiar with the National Science Foundation, where he took a post in 2009. Currently a Program Director in the Division of Materials Research, Jones recently spent over a year on leave while working at the White House as a Senior Policy Analyst for the Office of Science and Technology Policy (OSTP).

At OSTP, among other assignments, Sean and his colleagues reviewed programs designed to increase the number of underrepresented minorities and women who earn degrees in science, technology, engineering and mathematics (STEM). In that regard, he took every opportunity to tout the McKnight Doctoral Fellowship Program as a model for producing graduates in STEM and invited FEF President Dr. Lawrence Morehouse to a series of meetings to advise and confer with OSTP personnel.

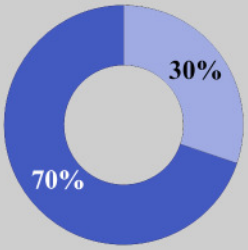
1984-2014 ~ 443 McKnight Doctoral Fellowship Graduates



Discipline Breakdown

- Business (52)
- Education (26)
- Humanities (53)
- Social Sciences (126)
- STEM-Engineering/ Computer Sciences (76)
- STEM-Health/Life/ Physical Sciences (104)
- STEM-Mathematics/Statistics (6)

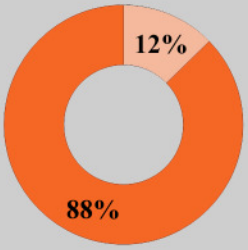
Universities	Graduates	Retention Rate
Barry University	5	83%
Florida A&M University	31	81%
Florida Atlantic University	4	75%
Florida Institute of Technology	5	75%
Florida International University	24	87%
Florida State University	106	81%
University of Central Florida	33	79%
University of Florida	119	78%
University of Miami	45	84%
University of South Florida	71	89%
TOTALS	443	82%



Employment Breakdown*

- Non-Academic (121)
- Academic (281)

*For 1984-2013 Graduates



Institution Breakdown

- Private (55)
- Public (388)

Seasoned Scholars Advise New Class of McKnights at the Annual Orientation

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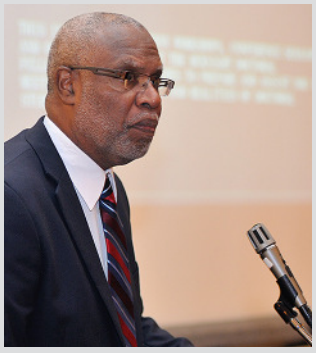
McKnight. He noted the lack of such support in 1972, when he began his doctoral program. Then, he said, many professors chose a "survival of the fittest" approach to graduate education. Now, he continued, although most departments attempt to assist students through their programs, national doctoral graduation rates still hover around 55%. Comparatively, largely due to FEF's unusually extensive support system, the McKnight Program shines with an 80% graduation rate.


2014 New Fellows' Orientation

Poole cited Council of Graduate Schools data, which indicates most students leave school before graduating because of insufficient funding or inability to fit into academic communities. "You won't have those problems," he said, "because society is investing in you. You will have funding and continued mentoring and guidance from the FEF and your professors. Thus there will be an expectation," he concluded, "that you in turn will conduct research that fulfills society's needs. Everything you do should serve all of us."

Dr. Marvin Dawkins


Dr. Marvin Dawkins

"For a new doctoral student, the academic department in the Ph.D. environment can be like arriving in a place that looks familiar, only to find you are in a different world." With these words, Dr. Marvin Dawkins, Professor of Sociology at the University of Miami, launched his Saturday morning discussion of challenges and strategies for navigating the Ph.D. landscape. He said many challenges concern graduate faculty—working with assigned advisors, choosing major professors, and generally cultivating relations with faculty. He exhorted his audience to meet with assigned advisors as quickly as possible to initiate a schedule and development plan.

He further advised students to adapt to department culture and connect to successful networks. He urged them to establish reputations for being committed and hard-working; attend scholarly departmental functions; and follow protocols, always accentuating positive aspects of departments publicly, while only sharing negative experiences discretely and under dire circumstances.

Dawkins also told the Fellows that, to succeed, they must understand the connection between coursework and scholarship. Thus, while mastering course materials, students must simultaneously use coursework to prepare for comprehensive exams, engage in research, and develop theses and dissertations. They also should use coursework to help groom professors to become major professors, dissertation chairs or committees members.

Yet another challenge all Ph.D. students face, according to Dawkins, is forming and responding to various committees. Students need to consult their department handbook to determine which committees they must interact with, their composition, and the student's role in choosing members, always deferring to their major professors when they form or help form these groups.

Dr. Henry Frierson

Speaking at the Saturday luncheon, University of Florida graduate school dean Dr. Henry Frierson cited the McKnight program's 30th anniversary this year. He encouraged the new class of Fellows to uphold the success of McKnight's previous 30 years. "Thirty years is a long time for a program like this," he said, adding, "many high schools can't match" McKnight's 80% graduation rate.


Dr. Henry Frierson

Dr. Frierson stressed the importance of building and maintaining good relationships, particularly with major advisors. He noted that, ideally, but not automatically, advisors can be mentors; however, all good advisors will fight for their students. "The culture won't accommodate, adjust for you," he said, urging Fellows to "accept how little you know, learn to operate independently, and use your wonderful opportunity with McKnight to develop a community. Don't allow anyone to outwork you. Be kind, don't be isolated, and keep a posse in good standing."

McKnight Doctoral Fellow S. Janine Parker Strives to Feed the World's Growing Population

Working with farmers to market coffee and mushrooms in Guatemala as a Peace Corps volunteer from 2009 to 2011 intensified McKnight Fellow S. Janine Parker's passion to help eradicate food insecurity throughout the Western Hemisphere.

MDF Fellow S. Janine Parker helps farmers in Guatemala.

It was that same drive to support sustainable development that spurred Janine to pursue a master's in Agriculture Economics at North Carolina A&T State University in 2007.

Since then, she has further immersed herself in the field of global food security by earning her master's and embarking on Ph.D. studies in the University of Florida's Agriculture Education program. She also has taken advantage of many important opportunities to expand her network, sharpen her skills, contribute to scholarship in the field, and work in international agricultural development to aid vulnerable populations.

> *"If we can continue to help students in the international community become effective agricultural scholars and ambassadors, we will equip them to have tremendous impact on developing more plentiful and sustainable food supplies to feed a growing population."*
>
> *-- McKnight Fellow S. Janine Parker*

Since enrolling at UF, Janine has participated actively in the Association for International Agriculture and Rural Development (AIARD); the Southern Association of Agricultural Scientists (SAAS); and Minorities in Agriculture, Natural Resources & Related Sciences. She also has presented posters and papers at the Southern Region Conference of the American Association for Agricultural Education, the Rural Sociological Society Annual Meeting, and the SAAS Annual Conference. In fact, in 2013, she won the Best Graduate Student Presentation Award and took second place for Outstanding Graduate Student Research Poster at the SAAS Annual Conference.

Later in 2013, Janine was selected to travel to South America to work with the Women's Leadership Program in Paraguay (WLPP), a partnership between the UF Institute of Food & Agricultural Sciences (UF-IFAS) and Paraguay's National University of Asuncion School of Agricultural Sciences (FCA) funded by the U.S. Agency for International Development (USAID).

Janine prepares student mentors in Paraguay.

WLPP was developed to increase the number of women retained in and graduating from FCA, and Janine helped initiate the Program's mentoring project for students enrolled in FCA and in Paraguay's four agricultural high schools. She developed and presented workshops in Spanish to train the inaugural 46 faculty and college student mentors.

In addition to teaching the importance of mentoring and the roles of mentors and mentees, the workshops Janine created empowered mentors to provide students with tools for balancing work and life, resolving conflict, utilizing library resources, succeeding academically, and leading in the field of agriculture.

Janine recently noted that her mentor trainees "did not have access to the on-campus support we have at the University of Florida and other U.S. schools, and they really appreciated the opportunity to become better leaders." She added, "If we can continue to help students in the international community become effective agricultural scholars and ambassadors, we will equip them to have tremendous impact on developing more plentiful and sustainable food supplies to feed a growing population."

Towards a related end, in March 2014, Janine travelled abroad again, as part of a UF-IFAS Global Education Lab project funded by the U.S. Department of Agriculture (USDA) to improve the quality and quantity of instructional materials available to faculty in agricultural sciences.

For the project, Janine researched potential outputs of the aquaculture industry as a component of Trinidad and Tobago's national plan to increase food security and decrease imports by farming fish locally. She later incorporated her research into a culturally rich reusable learning object designed to teach undergraduates about global food security issues, with a focus on Trinidad and Tobago.

In the summer of 2014, Janine was recognized for her commitment to international agriculture development by winning one of twelve competitive student invitations to participate in the AIARD Future Leaders Forum. The Forum aims to broaden students' vision and help them build a broad array of social/cultural, economic and scientific skills required to become effective 21st century professionals in international agriculture and rural development.

The Forum allows selected students to meet with prominent professionals to discuss top global issues affecting agriculture, including climate change, food security and nutrition, and to establish innovative and experimental solutions to those issues.

At the 2014 Forum in Washington, D.C., Janine met with leaders from the USDA, USAID, the Food and Agriculture Organization of the United Nations, the World Bank, and others. No doubt she will use gains from this valuable experience to enhance her work with vulnerable populations and advance the goal of increasing global food security.

FEF's Largest Annual Conference—the Pre-College Summit—Comes Home to Tampa

In March 2014, after several years in Orlando, the FEF welcomed more than 700 students and parents back to Tampa for the Annual Pre-College Summit. The event featured motivational speeches, academic contests, workshops, and a College Fair, beginning with a moving keynote address by former National Achievers Society (NAS) member Brandon Griffin and culminating with a talent extravaganza and awards ceremony.

Keynote

In his inspiring keynote presentation, Brandon Griffin, now a junior in Finance at the University of Central Florida, described the devastating car accident that almost claimed his life the summer before his senior year in high school. He detailed his long and persistent struggle back from traumatic brain injury, a three-week coma and an allergic reaction to medication administered at the hospital. He talked about spending months in the hospital and then at a rehab center, persevering through intensive speech and physical therapy to learn to speak, write and walk again, miraculously returning to school in January of his senior year to take remaining classes, graduate and start college on time.

NAS Alumnus Brandon Griffin just after his car accident and at the Summit.

In addition to imparting study and pre-career advice, Brandon encouraged the audience to view tribulations as he does since the accident, "not as downfalls, but as opportunities to grow spiritually, mentally, physically, and emotionally." He ended his presentation by stating, "I'm not where I want to be in life, surely I'm not. But, thank God, I'm not where I used to be."

Interactive Workshops and Sessions

Summit 2014 parent workshops received perhaps the highest praise ever from attendees, who had the opportunity to converse with FEF President Dr. Lawrence Morehouse and Villanova's Dr. Stephen Jones about maximizing children's academic performance and helping students choose colleges that will best prepare them to meet education and career goals. They also discussed best parenting practices during a Town Hall led by Mr. Guerian Fort from the Santa Fe College Center of Excellence (COE).

CBS 10 News reporter Ms. Tammie Fields presents the 3rd-5th Grade News Reporting Workshop.

In workshops for students in grades K through 8, some groups talked with a police officer about personal safety, learned about healthy diets, and wrote news stories with the aid of CBS 10 News Tampa reporter Tammie Fields. Others performed science experiments and discussed character principles.

> *"The overall benefit of attending parent Summit workshops is that the facilitators share a wealth of knowledge, and there is always time for dialogue and questions and answers. You leave the workshops motivated, equipped, and empowered to make a difference in your children's education."*
>
> *-- NAS Summit Parent*

One parent aptly summarized the general sentiment of parents who evaluated the sessions: "the overall benefit of attending parent Summit workshops is that the facilitators share a wealth of knowledge, and there is always time for dialogue and questions and answers. You leave the workshops motivated, equipped, and empowered to make a difference in your children's education."

High school students responded favorably to their workshops as well, largely because of the much-anticipated annual Teen Summit, a town hall-type discourse on topics selected by student leaders. This year, the group discussed whether standardized tests truly measure intellectual capacity and whether young people today are trying to grow up too fast.

The Summit also afforded opportunities for high school students to confer with college and university recruiters in the College Fair. Representatives from twelve Florida colleges and universities set up displays, presented information about their institutions, and answered questions from students and parents.

Center Awards

The Summit concluded with FEF Executive Vice President & General Counsel Lyra Logan, Esq., presenting awards to acknowledge the year's outstanding Achievers and parents. She also saluted UCF-McKnight COE Director Rasha Daniel for bringing both the largest overall delegation and the largest parent group to the Summit and the North Florida COE, under Ms. Gloria McIntosh, for winning the Best NAS Online Center Award.

FEF Exec. Vice President & General Counsel Lyra Logan, Esq., and NAS State President Tyler Daniels present Ms. Rasha Daniel, Director of the UCF-McKnight COE, with the Largest Overall Delegation and Largest Parent Group Awards.

FEF's 29th Annual Brain Bowl Competitions Reward Students for Academic Excellence

On Friday, March 21, 2014, thirty-three regional championship teams from around the State, many comprised of students from underrepresented groups, came to Tampa to battle for the State titles in the FEF's 29th Annual Brain Bowl Competitions in History and Culture and three levels of Math.

History & Culture Champion Chiles High School team, Tallahassee Coalition COE. From left: Coach Chauntee Howard, Taylor Reynolds, Kennedy Williams, Cassie Crumbpacker, Dominique Akinyemi, Quinlan Mewborne, Khori Howard, and Coach Edra Taylor

History and Culture

Since 1985, the History and Culture Competition has focused on sharpening critical reading and thinking skills while educating students about the role of minorities in the United States. Teams study college-level literary and historical manuscripts and prepare to answer questions that ask them to determine meanings of words from context, display understanding of significant information in text, analyze information, and evaluate assumptions made and techniques used by authors.

After seventeen double elimination games, the Chiles High School team from the Tallahassee Coalition COE emerged as 2014 champions.

To prepare for the State Championships, they and other regional winners studied *From Slavery to Freedom: A History of African Americans* by John Hope Franklin and Evelyn Higginbotham; *Their Eyes Were Watching God* by Zora Neal Hurston; and *To Tell the Truth Freely: The Life of Ida B. Wells* by Mia Bay. Prior to the State contest, they mastered content in three additional books and learned facts tested in the Black Heritage Trivia Game to win regional matches and earn an invitation to compete at State.

Mathematics

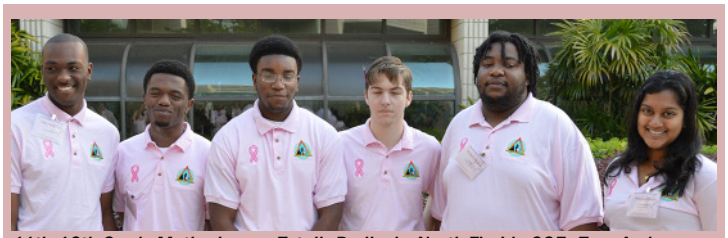
FEF created the Mathematics Competition in 2001 to boost interest in math among middle and high school students and develop problem-solving ability through challenging problems derived from standardized tests.

For 2014, the North Florida COE Totally Radical team triumphed in the 11th-12th Grade Math Competition; the St. Petersburg College COE Live Free or Pi Hard dominated in 9th-10th Grade Math; and The Mathletes from the Palm Beach County COE and Phenomenal5 from the Atlantic Coast COE (Fort Lauderdale) tied for first in the 6th-8th Grade Math contest, marking the first tie in the Competition's 13-year history.

Competition Prizes

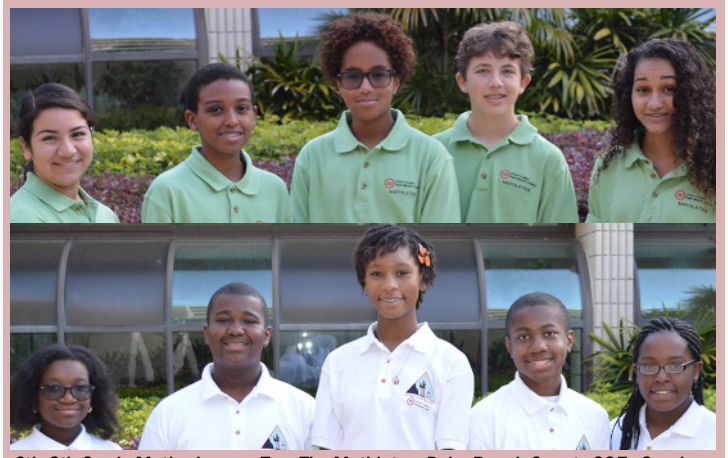
Placing Brain Bowl teams earned a bevy of prizes, including the all-expense-paid two-night trip to Tampa, trophies, and/or book store gift cards. First and second place History and Culture and 11th-12th Grade Mathematics team members also won college book scholarships of up to $300, and first through fourth place winners in both History and Culture and 11th-12th Grade Math earned the opportunity to choose from 86 four-year scholarships donated by twelve accredited colleges and universities across Florida. These scholarships will fund some winners' only means of attending college.

The following sponsors made the 29th Annual Brain Bowl Competitions possible: Aquatica; Bright House Networks; The College Board; The Florida Aquarium; Florida Department of Education; Gables Capital Management; Gamma Omicron Boulé Sigma Pi Phi Fraternity; Lewis, Birch & Ricardo, LLC.; Miami Dolphins, LTD.; Publix Super Market Charities, Inc.; Sea World Parks & Entertainment; Tampa Airport Marriott; Tampa's Lowry Park Zoo; and Walt Disney World Co.



11th-12th Grade Math winners, Totally Radicals, North Florida COE: Tony Anderson, Alexander Adams, Ricky Brown, Elijah Rivera, Coach Fred Douglas and Priyanka Patel

9th-10th Grade Math winners, Live Free or Pi Hard, St. Petersburg College COE: Jacob Hehn, Maja Haerle, Isaac Andersen, Romina Lilollari and Margaret Chittick



6th-8th Grade Math winners, Top: The Mathletes, Palm Beach County COE: Sarah Ruderman, Charles West, Dwight Smith, Darin Goldstein and Daisy Coates. Bottom: Phenomenal5, Atlantic Coast COE: Yazmin Lee, Kye Sims, Kamryn Washington, Jayden Johnson and Fridjinah Francois.

Rising 5th through 8th Graders Write Programming Code at FEF's Opa-locka Robotics Camp

The teacher responsible for helping students program robots at FEF's first two Opa-locka summer robotics camps said "middle school kids can't write code;" they need to "program" their robots by dragging and dropping "blocks" on the computer screen.

FEF disagreed and for 2014 hired a teacher who shares the belief that middle school and even younger students can indeed write code and control the exact action of their robots by the instructions they type. After researching options, the Camp working group chose to have students learn to code using the C-based RobotC programming language for educational robotics, since most of today's leading programming languages are based on C.

Students program their robot.

The new teacher, Mr. Mario Thomas, designed the Camp's daily robotics lessons around Carnegie Mellon's RobotC curriculum for use with FEF's existing Lego Mindstorm NXT systems. Over the four-week summer, he used those lessons to teach students—all rising 5th through 8th graders—how to build 130-piece 'bots, download required firmware, and write programs.

At the Robotics Showcase at the end of Camp, all students demonstrated their ability to write code well enough to meet challenges posed by Mr. Thomas, which involved programming touch, light and other sensors to direct their 'bots along various paths and avoid obstacles along the way.

During the Camp, in addition to robotics classes, students worked with a certified mathematics teacher to learn and/or review middle school math, with special emphasis on domains related to their robotics tasks. They also took several educational field trips and talked with visiting college representatives and professionals working in science, technology, engineering and math fields.

Students demonstrate their programming skills at the Robotics Showcase.

Students tour Florida International University's North Campus.

Even so, according to Camp staff, the robots were the component that kept students—many of whom achieved perfect attendance—fully engaged. Working hands on with the machines they built allowed students to witness math in action and begin to appreciate its application in the real world.

In fact, on Camp evaluations, one student listed a "better view of math in real life" and most others listed learning programming/robotics as their greatest benefit from the summer. One said,

Students visit with financial planner Mr. Kenneth Murray.

"[t]he most important thing I gained was that I began to like math. I used to think it was the worst. Now I see that you can really use it for something." She also credited program teachers for helping her improve her skills, while others thanked the staff for helping them plan for high school and encouraging them to go to college.

Overall, 85% of the students agreed they improved their math skills, and 70% noted that their attitudes towards math changed positively as a result of the Camp. Also, 65% said they are more likely to consider a math, science or technology-related career, and 85% indicated they learned more about how to prepare for high school and college.

Upcoming FEF Events

Feb. 27-28, 2015	MDF Mid-Year Research and Writing Conference, Tampa
March 20-21, 2015	30th Annual Brain Bowl Competitions and Florida National Achievers Society Pre-College Summit, Tampa

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The FEF's mission is to strengthen the larger community by creating and implementing programs and services that lead to greater educational advancement for historically underrepresented groups.

For information on how you may support FEF programs, please call 813-272-2772.

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