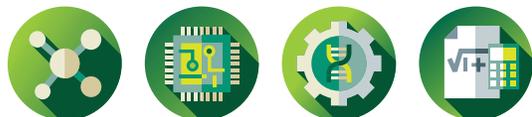


NEWSLETTER

ISSUE 3 FALL 2019-FALL 2020



ABOUT THE HELIOS STEM MIDDLE SCHOOL RESIDENCY PROGRAM

The development of the Helios STEM Middle School Residency Program was supported by a generous gift from the Helios Education Foundation. This gift has provided USF and Hillsborough County Public Schools (HCPS) an opportunity to develop, test, and refine both the program and support structures needed for full and ongoing implementation. In addition, this program addresses the call to prepare effective teachers for the 21st century classroom by engaging them in extensive clinical experiences while supported by skilled practitioners. The program aims to produce, support, and enhance the retention of STEM middle school teachers who enter the field ready to teach rigorous content standards, understand the unique needs of young adolescent learners, and to teach diverse student populations, including those in high needs environments.

ANNOUNCEMENT

The Helios STEM Middle School Residency Program was recently **awarded USF's 2019-2020 Student Success Award in Academic Excellence Award**. Just another testament to the high-quality nature of this innovative program. Congratulations to all who help make this program so special!

CONTRIBUTING TO USF'S STRATEGIC GOALS IN MEANINGFUL WAYS



The Helios STEM Middle School Residency Program is well aligned with USF's Strategic Goals, which is contributing to the universities propelling USF forward as a global research university dedicated to student success. Aligning with Goal #1, the Helios program is a **high quality interdisciplinary**

educational program that reflects the latest research in teacher education, middle level education, mathematics education, and integrated STEM education. Through intensive community-engaged clinical experiences, the program aims to produce high quality mathematics teachers and dynamic global citizens who enter the field ready to teach rigorous content, understand the unique needs of young adolescent learners, and are prepared to teach diverse student populations, including those in high needs environments. **The program is certified as a Global Pathway program.** Throughout the program, students engage in a variety of experiences that aligned with GCP Objectives.

The Helios STEM Middle School Residency Program also aligns with USF Strategic Goal #2. **This program has brought forth interdisciplinary research initiatives** that are **bridging multiple disciplines.** For example, an emerging theoretical framework for responsive middle level mathematics teaching that meets the cultural and developmental needs of young adolescent learners was created as a result of the collaboration efforts of faculty who work in this program. Further, multiple community-engaged scholarship initiatives have taken place and are currently underway (for more information, see the section titled "Research Related to the Helios STEM Middle School Residency Program").

The STEM Middle Grades Residency Program is also well aligned with USF Strategic Goal #3. This program has a **well-established mutually beneficial partnership** with **Hillsborough County Public Schools** that **enhances student access to employment opportunities** in HCPS (evidenced in part by HCPS hiring 100% of all program graduates who apply to the district).



SUMMER 2020 SELF STUDY

On June 25, 2020 The Helios STEM Middle School Residency Program held a day-long self-study retreat with HCPS teachers, HCPS district staff, College of Education faculty, Helios Alumni, and College of Arts and Science faculty. Together we analyzed various aspects of the STEM Middle Grades Residency Program (i.e., math content and standards, STEM integration, middle school education and young adolescent development, practica, and yearlong residency) in an effort to refine and enhance the program.



COMMITMENT TO DISMANTLING RACISM AND SYSTEMATIC OPPRESSION

The faculty of the Helios STEM Middle School Residency Program, we commit to empowering and uplifting middle level teacher candidates and young adolescents who have historically been oppressed, especially in their access to high quality teaching and learning. We seek to build an equitable, inclusive, and socially-just program, one where faculty hold themselves acutely accountable for investing in the success of all students, especially those who have been historically oppressed by systems of education. In our program, teacher candidates engage in curriculum and coursework that speak directly to racism and other forms of systematic oppression and highlight perspectives that serve to emancipate suppressed groups.



CONGRATULATIONS TO OUR 2020 GRADUATES

We are happy to announce that 10 students graduated from the Helios STEM Middle School Residency Program in 2020. Combined with prior graduates, to date this program has produced 68 graduates who all hold a Florida Professional Teacher Certification in Middle Grades Mathematics 5-9 or Science 5-9. Again, this year Hillsborough County Public Schools (HCPS), our district partner, hired every 2020 graduate who applied to the district (resulting in HCPS hiring 8 of the 10 graduates). Thank you, HCPS, for your continued support of the Helios STEM Middle School Residency Program!



WELCOMING IN THE NEXT COHORT

On August 14, 2020 we held an orientation to welcome 12 new middle grades teacher candidates into the program. These students, affectionately referred to as Cohort 8, are eager to embark on their educational journey to becoming middle school mathematics educators!



PROGRAM GRADUATE FEATURED IN A RECENT EDUTOPIA VIDEO

We are so proud of Montinique Woodard, a graduate of the Helios STEM Middle School Residency Program in Middle Grades Science, who is highlighted in a recently released Edutopia video titled "Black Teachers Share Their Stories." We are so proud of the impact you are having on today's youth, Monty!

<https://edut.to/2HENcyy>



TEACHER CANDIDATE SPOTLIGHT



SLOANE KENDZIORA

 Cohort 7 Teacher Candidate

Below a Cohort 7 Teacher Candidate, Sloane Kendziora, shares her journey in the Helios STEM Middle School Residency Program.

In Practicum I, I primarily worked with small groups of struggling students on daily assignments and, occasionally, I was able to teach lessons to the whole class. I enjoyed my practicum so much that I continued working with Mr. Garcia up until semester exams. We used a parallel teaching model to work on the review packet to help prepare kids for the test. On my last day, I chaperoned a field trip to the Florida Aquarium. Even though it was a lot of work, Practicum I showed me how much fun teaching can be and affirmed for me that I chose the right profession.



In Practicum II, I spent a lot of time working with student groups and checking in on their progress. The most important lesson from Practicum II is that

there is not one right way to teach. Mr. Garcia and Ms. Stites approaches to teaching are different, and yet, they both run successful classrooms full of happy, well informed students. The key, it seems, lies in knowing your students and being willing to adapt your norms to best suit them. I learned

a lot from both of my practicum School-Based Teacher Educators that have shaped my teaching practice.

As I wrapped up my practicum experiences, I wondered what else I possibly had to learn from this program. My math skills are solid, I can form positive relationships with students, and I have solid classroom management skills. So what else is there? As it turns out, a lot.

My School-Based Teacher Educator for residency, Rebecca Karlen, is absolutely the best. She has been accommodating, gracious, and completely selfless throughout everything.

With a global pandemic in full swing and family circumstances requiring I engage in my internship virtually, she hasn't let that get in the way of us working together to teach our students. She trusts me completely to come up with fun, interesting, rigorous activities for our eLearning students to participate in. I have a home office set up, with a make-shift document camera and a whiteboard to boot, where I join Rebecca every day. We face every obstacle together. Be it behavior issues, student accountability problems, or plain old technology malfunctions, we get it done. We hold all of our students to high

“My math skills are solid, I can form positive relationships with students, and I have solid classroom management skills. So what else is there? As it turns out, a lot.”



standards, while also communicating to them that we love and accept them for who they are. Right now, we are closing in on the first progress reports going home, and I could not be happier with the way things have been going. If there is one thing I learned from all of this, it is that I am never done learning.



GRADUATE SPOTLIGHT



ALEXANDRIA SMITH

 *Graduated Spring 2016*

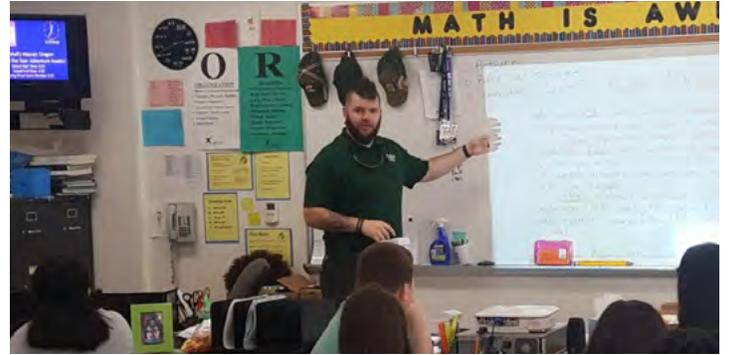
Graduate of Cohort 2 Helios STEM Middle School Residency Program in Middle Grades Mathematics

Alex is in her fifth-year teaching at Memorial Middle School in Hillsborough County Public Schools. During the 2018-2019 school year, Alex was selected as Memorial's Teacher of the Year. In Fall 2019, she served as a School-Based Teacher Educator for two Practicum I students. Currently she is serving as a residency School-Based Teacher Educator for one of our Cohort 7 students, Lauren Spero. Alex states the following about her experience:

"I've had the pleasure of using what I have learned in the Helios STEM Middle School Residency Program at Memorial Middle for the last four years. I've been rated a highly effective educator all four years, and in my 3rd year of teaching I was selected as Teacher of the Year for my school. I have been given more responsibility as an educator, taking the position of 7th grade Team Lead and given the goal of implementing Visible Learning Strategies at our school. Along with this position and newly given goal, I was able to travel to a conference in Las Vegas with my team to help bring ideas back to implement at Memorial. I believe what we learned through the Helios STEM Middle School Residency Program allowed me to get the best training possible to excel in my profession and be recognized for my efforts and accomplishments."



Canvas home page image of Lauren Spero (Teacher Candidate) and Alexandria Smith (School-Based Teacher Educator)



BRETT GERNERTT

 *Graduated Spring 2016*

Graduate of Cohort 2 Helios STEM Middle School Residency Program in Middle Grades Mathematics

Brett is in his fifth-year teaching at Marshall Middle Magnet School in Hillsborough County Public Schools. At the end of his first year of teaching, he earned the very prestigious High Impact Award from the State of Florida. During Fall 2019, he served as a School-Based Teacher Educator for two Practicum I students. In Spring 2019 Brett was highlighted by Bay News 9 for his innovative teaching: <https://bit.ly/3ipc8a2>

Currently he is serving as a residency School-Based Teacher Educator for one of our Cohort 7 students, Alexis Rodriguez. Brett states the following regarding his role as a School-Based Teacher Educator, **"Being both a former teacher candidate and now a School-Based Teacher Educator has given me a unique lens of expertise that has helped me really understand and help prepare the next wave of teachers."**



Left to Right: Alexandria Smith, Priscilla Franco, & Brett Gernertt (Graduates of Cohort 2 and now all School-Based Teacher Educators)



GROWING OUR OWN: *Graduates Turned School-Based Teacher Educators*

One of the goals of the Helios STEM Middle School Residency Program is to work toward supporting middle school STEM teaching in our partner school district, Hillsborough County Public Schools, by growing our own teachers for our partner district. As a secondary goal, we desire to have these graduates turned HCPS middle school STEM teachers become School-Based Teacher Educators in the program from which they graduated. We are so fortunate to have such wonderful program graduates who are willing to serve as School-Based Teacher Educators in the program. To date, five graduates of the program are actively serving as a School-Based Teacher Educator in the program—Alexandria Smith, Brett Gernertt, Rebecca Karlen, Victoria Schepesi, and Priscilla Franco.

Rebecca shares her thoughts on becoming a School-Based Teacher Educator:

“Graduating from the Helios program in 2016 was a great privilege. It has given me fantastic insight as I transition into the role of Site-Based Teacher Educator. I am proud to continue to work with the Helios STEM Middle School Residency Program and to guide my own teacher candidate as she completes her residency.”

Victoria states:

“Becoming a teacher educator in the teacher preparation program I graduated from is a true honor. As a graduate I know what the program has to offer. It made me into a highly effective teacher in my first year of teaching. Knowing the information gained from the program, I understand the work, growth, and importance of the residency year. The yearlong residency experience has the ability to turn a good teacher into a great teacher. I hope to instill in my teacher candidate many of the lessons I learned in both the Helios STEM Middle School Residency Program and in my career as a middle school mathematics teacher.”

Thank you, Alex, Brett, Rebecca, Victoria, and Priscilla for all you do to support the Helios STEM Middle School Residency Program!



Student Co-facilitated lesson on teaching about geometric thinking.

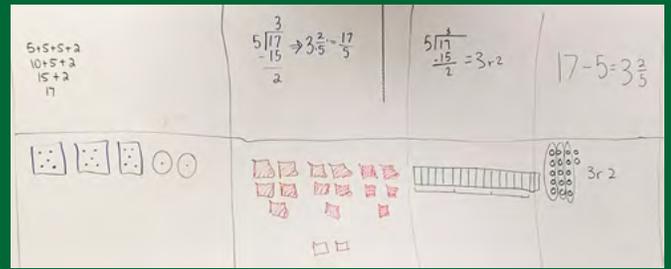


COPLANNING AND COTEACHING MIDDLE LEVEL CORE COURSES

Affectionately referred to as “The Middle Level Core,” our core program courses provide a laser-like focus on young adolescents’ developmental characteristics and needs, middle level mathematics teaching methods, middle level classroom management, STEM education, and clinical practice. Core program courses include a Middle Level Education (EDM 3620), Middle School Mathematics Methods I and II (MAE 3224 & MAE 3225), Classroom Management for a Diverse School and Society (ESE 4322), Teaching the Young Adolescent Learner (EDM 3620), Contemporary Issues in STEM (EDM 4406), Practicum I and II (MAE 3941 & MAE 3942), Residency I & II (MAE 4941 & MAE 4942).

In Fall 2020 three of these courses—EDM 3620 Middle Level Education, MAE 3224 Middle School Mathematics Methods I, and MAE 3941 Practicum I—were coplanned and cotaught for the first time (previously, only MAE 3941 and EDM 3403 were coplanned and cotaught as one in one large block of time on Fridays). This experience helped set the foundation for teacher candidates’ understanding of teaching mathematics to young adolescents in a middle school setting.

In Spring 2020, three more core program courses—ESE 4322 Classroom Management, MAE 3942 Middle School Math Methods II, and MAE 3942 Practicum II—were coplanned and cotaught as one in one large block of time on Fridays. In the middle school classroom setting, classroom management and mathematical instruction are inseparable. Teachers must consider the management issues and content issues concurrently when planning and implementing instruction. Cohort 7 students experienced the benefits of combining content knowledge with pedagogical content knowledge in a variety of coplanned and co-facilitated activities. One such activity was the Classroom Wars Competition. During Classroom Wars, the cohort was split into two teams and tasked with creating their ideal middle school mathematics classroom on a budget. The students had to simultaneously consider issues related to classroom management and content delivery when designing the aspects of their ideal classroom set-up. This practice of coplanning and coteaching program-specific courses has proven to be a very successful instructional model.



LEARNING TO TEACH MIDDLE SCHOOL MATH: *Numbers Concepts Divisibility Project*

In Number Concepts Connections, teacher candidates spent time learning about divisibility rules. In order to connect conceptual understanding to procedural fluency, teacher candidates work with algorithmic, algebraic, and visual representations of division. They connect repeated addition to multiplication, long division to mixed numbers and improper fractions, and division to tape diagrams and number lines. They were tasked to work in groups to represent the same problem (17/5) in multiple ways followed by a class discussion of how each of these representations could be helpful or confusing to middle school students.



ORIENTATIONS FOR THE 2020-2021 SCHOOL YEAR

Unlike years past, with COVID-19 many of our traditional practices such as face-face professional development and orientations have shifted to an online delivery model. However, this change didn’t slow us down! Over the summer, all residency School-Based Teacher Educators, faculty who work in the program, graduate students who teach and supervise in the program, and all Teacher Candidates entering residency met for a virtual orientation. In early fall, all faculty who work in the program, graduate students who teach and supervise in the program, and all teacher candidates new to the program met for a virtual orientation. A few weeks later, these individuals met with the practicum I School-Based Teacher Educators for a practicum orientation where topics such as online teaching and learning and virtual supervision were discussed.



RESEARCH RELATED TO THE HELIOS STEM MIDDLE SCHOOL RESIDENCY PROGRAM

Through their work in the Helios STEM Middle School Teacher Residency Program, Drs. Ellerbrock and Vomvoridi-Ivanovic are developing a framework on teaching middle level mathematics to young adolescent learners called Responsive Middle Level Mathematics Teaching (RMLMT). RMLMT defined as “quality mathematics teaching for all young adolescents that advances their mathematical thinking, promotes equity and social justice, and attends to their developmental characteristics, needs, and interests” (Ellerbrock & Vomvoridi-Ivanovic, 2019) reflects a more integrated and holistic approach to middle level mathematics teaching than existing frameworks.

In January of 2018, Drs. Ellerbrock and Vomvoridi-Ivanovic launched a longitudinal qualitative research study to further understand the ways novice middle grades mathematics teachers, who are either enrolled in or have recently graduated from USF’s Helios STEM Middle School Teacher Residency Program, conceptualize and enact RMLMT. Findings from this investigation will be submitted to scholarly journals for publication this academic year.

Drs. Ellerbrock and Vomvoridi-Ivanovic are also finishing up a self-study project that investigated their experience coplanning and coteaching teacher preparation courses in the clinical setting. Multiple manuscripts on this project are being finalized and submitted in the upcoming months.



Cohort 6 students at the Education in Action Luncheon



Trevor Bales and Yasemin Engin participating in family night at Mann Middle.



Cohort 7 students during a school visit to Franklin Boys Preparatory Academy



Cohort 6 teacher educators getting ready to engage in mock interviews with HCPS middle school principals after a district administrator meeting.



Alexis Rodriguez (teacher candidate) and Brett Gernertt (School-Based Teacher Educator)

“Through all the challenges so far this year, my School-Based Teacher Educator has been nothing but supportive and encouraging. I believe between Mr. Gernertt and this program, I have been given the best tools to become a successful teacher in the future!”

Alexis Rodriguez, Teacher Candidate at Marshall Middle Magnet with Mr. Brett Gernertt (School-Based Teacher Educator)

RESEARCH PRODUCTIVITY ON THE HELIOS PROJECT TO DATE

Since 2013, seven articles have been published on various aspects of the STEM Middle School Residency Program, 25 national presentations presented at seven major conventions, and one professional newsletter article published. In fall 2020, a NSF research grant proposal related to aspects of the Helios STEM Middle School Residency was submitted. Research activity from Fall 2019-Fall 2020 is listed below.

GRANTS

1. Vomvoridi-Ivonivic, E., Ellerbrock, C. R., vanIngen, S., & Kim, E. (2020, under review). Building Opportunities to Learn (BOLD) for Diverse Young Adolescents. National Science Foundation, \$450,000

PUBLICATIONS

1. Ellerbrock, C. R. (2020). Obstacles and opportunities to developing and sustaining a clinically rich STEM middle school residency program. *Middle School Journal*, 51(5), 19-28. 10.1080/00940771.2020.1814625
2. Sarnoff, K., & Ellerbrock, C. R. (2020). Stronger together: A collaborative triad approach to middle school STEM teacher preparation. *School-University Partnerships*, 13(1), 48-53.
3. Ellerbrock, C. R., & Vomvoridi-Ivanovic, E., Sarnoff, K., Jones, B., & Thomas, M. (2019). Collaborating to "Grow Our Own": The Helios STEM middle school residency program. *The Clearing House*, 92(4-5), 119-124. 10.1080/00098655.2019.1614516

NATIONAL PRESENTATIONS

1. Ellerbrock C. R. (2020, October). Supporting teacher education training through coplanning and coteaching in the field. Roundtable presentation presented at the Middle Level Education Research SIG Roundtable session at the 2020 annual virtual meeting of the Association for Middle Level Education.
2. Ellerbrock, C. R. & Vomvoridi-Ivanovic, E. (2019, November). *Middle level teacher education training through co-teaching in the field: A self study*. Roundtable presentation presented at the NAPOMLE Best Practice session at the 2019 annual meeting of the Association for Middle Level Education, Nashville, TN.
3. Ellerbrock, C. R., Sarnoff, K., Cannon, M., & Vomvoridi-Ivanovic, E. (2019, November). *Striving to become a responsive middle level mathematics teacher*. Roundtable presentation presented at the Middle Level Education Research SIG Roundtable session at the 2019 annual meeting of the Association for Middle Level Education, Nashville, TN.

THANK YOU TO OUR WONDERFUL SCHOOL-BASED TEACHER EDUCATORS!

We would like to thank the following School-Based Teacher Educators for their dedication to working with the next generation of middle school STEM teachers. We also thank all the administrators at our partner middle schools for their continued support of this program.

Practicum I School-Based Teacher Educators // Fall 2019

Holly Foster // Barrington
Alexandria Smith // Memorial
Mario Garcia // Memorial
Rebecca Karlen // Liberty
Brett Gernert // Marshall
Jennifer Galvin // Williams

Practicum II School-Based Teacher Educators // Spring 2020

Jennifer Appgar // Ferrell
Vicki Viverito // Ferrell
Benita King // Ferrell
Geri Stites // Ferrell
Karen Williams // Ferrell
Allan Alvarado // Ferrell

Residency School-Based Teacher Educators // 2019-2020

Tameka Bishop // Progress Village
Tamara Deslinger // Martinez
Donna Shea // Martinez
Brittany Jones // Barrington
Gina Kemper // Barrington
Anthony Daniele // Madison
Elise Tanner // Mann
Lauren Pareja // Mann
Sarah Schlosser // Mann
Natalie Fisher // Stewart
Caitlin StLouis // Adams
Kellie Rodriguez // Williams

We would also like to send a special thank you out to our Fall 2020 Practicum I School-Based Teacher Educators and our 2020-2021 Residency School-Based Teacher Educators who, even during COVID-19 and all that is being asked of teachers, were excited and willing to take on the responsibility of working with our teacher candidates. Thank you so much for your dedication and partnership!

Practicum I School-Based Teacher Educators // Fall 2020

Donna Shea // Martinez
Kellie Rodriguez // Williams
Priscilla Franco // Walker
Tamara Deslinger // Martinez
Mario Garcia // Memorial

Residency School-Based Teacher Educators // 2020-2021

Holly Foster // Barrington
Gina Kemper // Barrington
Rebecca Karlen // Liberty
Ashley Pareja // Mann
Tameka Bishop // Progress Village
Victoria Schepesi // Barrington
Brett Gernert // Marshall
Sarah Schlosser // Mann
Alexandria Smith // Memorial
Kelli Shaw // Greco

We would like to especially thank the Helios Education Foundation for their generous support in the planning and implementation of the Helios STEM Middle School Residency Program.