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## **EDUCATION**

- 2008- 2012                      University of Missouri, Columbia, Missouri  
Doctor of Philosophy in Curriculum and Instruction –  
*Specialization in Mathematics Education*
- 2004-2006                      Indiana University, Bloomington, Indiana  
A Master of Science in Education –  
*Specialization in Mathematics Education*
- 1999 – 2002                    The College of The Bahamas, Nassau, Bahamas  
A Bachelor of Education with a Secondary Certification –  
*Specialization in Mathematics Education*
- 1997 – 2001                    The College of The Bahamas, Nassau, Bahamas  
An Associate of Arts Degree in Mathematics with Statistics

## **PROFESSIONAL POSITIONS**

- 2024 – Present                Faculty in the College of Arts and Sciences and College of  
Education (Joint Appointment- Memorandum of Understanding  
signed January 25, 2024)
- 2023- Present                Full Professor in Mathematics Education, College of Education,  
University of South Florida
- 2021- Present                Associate Director  
Coalition for Science Literacy  
College of Arts and Science, University of South Florida
- 2021 -Present                Lead Faculty Facilitator

University of South Florida Inclusive and Equitable Pedagogy Program

- 2018- 2023 Associate Professor  
Secondary Mathematics  
College of Education, University of South Florida
- 2018- Present Undergraduate B.S. and B.A. Grades 6-12 Program Coordinator  
and Mathematics Education M.A.T and M.Ed Program  
Coordinator  
Secondary Mathematics  
College of Education, University of South Florida
- 2013- Present Coordinator for Developmental Mathematics Courses  
College of Education and College of Arts and Science, University  
of South Florida
- 2012- 2018 Assistant Professor  
Secondary Mathematics  
College of Education, University of South Florida
- 2010 - 2012 Graduate Teaching Assistant  
Mathematics Department  
University of Missouri, Columbia, Missouri
- 2008 -2012 Graduate Research Assistant  
Mathematics Education Department  
University of Missouri, Columbia, Missouri
- 2002-2004 & 2006-2008 Senior High School Mathematics Teachers  
C.R. Walker Senior High School  
Ministry of Education and Technical and Vocational Training,  
Nassau, Bahamas

## **PROGRAM OF RESEARCH**

- Examining the official and operational mathematics curriculum and curriculum materials and contributing factors
  - Developing reasoning and proof skills in mathematics
  - Attending to justice, equity, diversity, and inclusion in secondary mathematics
  - Technology integration in secondary mathematics classroom
  - Using co-planning and co-teaching to promote student success

## **HONORS (FELLOWSHIPS, AWARDS, and SCHOLARSHIPS)**

### **Fellowships**

November 2021 Association of American Advancement of Science (AAAS) Fellow  
2021 AAAS Fellow <https://www.aaas.org/fellows>

June 2020 NSF-funded Aspire Alliance's Institutional Change Network  
(IChange) IAspire Leadership Academy!  
Second cohort fellow.

2008-2012 Center for the Study of Mathematics Curriculum (CSMC)  
Fellowship Award, which provided a four-year graduate  
assistantship with tuition waiver at the University of Missouri.

2004-2006 Organization of American States Fellowship Award, which paid  
for tuition, travel and living expenses while I attended Indiana  
University

### **Awards**

October 7, 2024 Guest Coach for USF Athletics Department

October 1, 2024 AERA Social Justice in Education Award (Nominated)

December 2, 2023 University of the Bahamas Alumni Trailblazer Award Stem  
Mathematics  
<https://sway.cloud.microsoft/2aAREuJWly5jwTxp?ref=email&loc=play>

March 29, 2023 Committee on Black Affairs (COBA) Celebrating Excellence  
Series

March 9, 2023 University of South Florida College of Education Undergraduate  
Program Committee - Excellence in Undergraduate Education  
award for the 2022-2023 academic year.

February 1, 2023 Mathematically Gifted and Black Awardee  
<https://mathematicallygiftedandblack.com/honorees/ruthmae-sears/>

January 26, 2023 Griffith Leadership Society for Women - 2023 Spirit of Martha  
Award

September 21, 2022 Florida Distance Learning Award (FDLA) – Distinguished Service  
Award Recipient

August 5, 2022	Kappa Delta Pi – International Honor Society 2022 Chapter Leader Award Recipient for Regional Chapter Counselor
May 4, 2022	University of South Florida – College of Education Excellence in Undergraduate Education Award
April 14, 2022	University of South Florida -Office of Multicultural Affairs I Heart Diversity Award Recipient
April 12, 2022	University of South Florida - Office of Diversity, Equity and Inclusion Inclusive Excellence Impact Award Recipient
March 2022	University of South Florida Outstanding Faculty Award Recipient
October 2021	Association for Women in Mathematics Award (Nominated but not selected)
May 12, 2021	Black Faculty and Staff Association (BFSA) – Connections for Life- Mentorship Program – Paper Plate Award.
December 2019	National Council of Teachers of Mathematics (NCTM) - National Science Foundation (NSF) travel grant award for the 14th International Congress on Mathematical Education (ICME-14) in Beijing China (July 11-19, 2020). This award provides \$2,750 towards the cost of or registration, airfare, lodging, and meals
April 11, 2018	USF chapter of the National Council of Negro Women – Catherine Johnson STEM Award
February 18, 2017	Vex Robotics Competition – Volunteer of the Year Award for 2016-2017
October 22, 2016	Florida Association of Mathematics Teacher Educators (FAMTE)- Mathematics Teacher Educator of the Year Award 2016
March 18, 2015	University of South Florida's Chapter of the National Council of Negro Women -Black Girls Rock Honoree
March 2012	12th International Congress on Mathematical Education (ICME-12) Travel Grant Award, which waived the conference registration fee and provided \$400.00 for travel reimbursement.

- May 2011 Kappa Delta Pi- Hollis L Caswell Doctoral Award, which awarded \$4,000.00 to assist with expenses relative to my dissertation studies.
- 2008-2011 Lyford Cay Foundation Graduate Student Award, which awarded \$7,500 annually for three years.
- November 2010 Graduate Student Association Travel Grant Award, which awarded \$150.00.
- December 2009 Graduate and Professional Council Travel Award, which awarded \$300.00.

### Scholarships

- 2010-2012 University of Missouri Mathematics Education Scholarship, which awarded \$5,000 annually, for two years.
- 1997-2002 The Bahamas Teachers' Educational Grant, which paid for tuition at The College of The Bahamas and provided a \$475.00 monthly stipend.

### RESEARCH

#### Refereed Journal Articles Published or Accepted

- Sears, R., Castro-Minnehan, C., Oloff-Lewis, J., Junor Clarke, P., Biagetti, S., Grady, M., Cayton, C. (Accepted with minor revisions). Secondary mathematics preservice teachers' perceptions of how co-teaching can attend to equity dimensions and six facets of equitable teaching. *Investigations in Mathematics Learning*.
- Johns, J.G., Harrow, C., & Sears, R. (2023). Problems to Ponder. *Mathematics Teacher: Learning and Teaching PK-12*, 116(5), 387-391.
- Sears, R., Bay-Williams, J., Willingham, J. C., & Cullen, A. (2022). Symbiosis: Social and Emotional Learning & Mathematics Learning. *Mathematics Teacher: Learning and Teaching PK-12*
- Sears, R. (2022). Develop reasoning and proof skills with visual representations. *Mathematics Teacher: Learning and Teaching PK-12*
- Sears, R. (2021, November). The 5Rs to promote equitable norms and culture. *Mathematics Teacher: Learning and Teaching PK-12*. 114(11), 814-816.
- Sears, R. & Kudaisi, Q. (2021). A Systemic Approach for Attending to Justice, Equity, Diversity, and Inclusion (J.E.D.I) in a High School Mathematics Methods Course. *AMTE Connections*. <https://amte.net/connections/2021/12/systemic-approach-attending-justice-equity-diversity-and-inclusion-high-school>
- Matthews, L., Jessup, N. & Sears, R. (2021). "Looking for 'Us': Power Reimagined in Mathematics Learning for Black Communities in the Pandemic. *Educational Studies in Mathematics*. <https://link.springer.com/content/pdf/10.1007/s10649-021-10106-4.pdf>

- Yilmaz, Y., Gulbagci, H, **Sears, R.**, & Nielsen, S. (2021). Are We All in This Together?: Mathematics Teachers' Perspective on Equity in Remote Instruction During Pandemic. *Educational Studies in Mathematics*, 1-25  
<https://link.springer.com/article/10.1007/s10649-021-10060-1>
- Sears, R.**, Zelkowski, J., Edwards, B., & Castro-Minnehan (2020, Winter). Developing Infrastructure to Support Teacher Candidates during Emergency Remote Clinical Experiences. *Association of Mathematics Teacher Educators (AMTE) Connections*. Retrieved from <https://amte.net/connections/2020/11/connections-thematic-articles-voices-field>
- Barlow, A., **Sears, R.**, Edwards, C., & Robichaux-D., R. (2020, December). Enhancing and transforming virtual instruction. *Mathematics Teacher: Learning and Teaching PK-12*. 113(12), p. 17.
- Krajcevski, M., & **Sears, R.** ( 2019) . Common visual representations as a source for misconceptions of preservice teachers in a geometry connection course. *International Journal for Mathematics Teaching and Learning*, 20(1). Available online <https://www.cimt.org.uk/ijmtl/index.php/IJMTL/article/view/189>
- Sears, R.**, Kersaint, G., Burgos, F., & Wooten, R. (2018). *Collaborative effort to develop middle school preservice teachers' mathematical knowledge*. PRIMUS. DOI: [10.1080/10511970.2018.1532936](https://doi.org/10.1080/10511970.2018.1532936)
- Sears, R.**, Hopf, F., Torres-Ayala, A., Williams, C. S., Skrzypek, L. (2018). *Using plan-do-study-act (PDSA) cycles and interdisciplinary conversations to transform college algebra*. (PRIMUS). DOI: [10.1080/10511970.2018.1532938](https://doi.org/10.1080/10511970.2018.1532938)
- Sears, R.** (2018). The implications of a pacing guide on the development of students' ability to prove in geometry. *Mathematics Education*. The former name of the journal is the *International Electronic Journal of Mathematics Education (IEJME)*, 13, (2), 1-13 .
- Sears, R.** (2018) Proof schemes of preservice mathematics teachers. *Investigations in Mathematics Learning*. p. 1-17. DOI: [10.1080/19477503.2018.1467106](https://doi.org/10.1080/19477503.2018.1467106)
- Sears, R.**, Butler, K., & Krajcevski, M. (2018). The integration of technology in model eliciting activities to support mathematical reasoning. *Dimensions*, 37(2), p. 16-27.
- VanIngen, S., Peterson, B., Borko, H., **Sears, R.**, & Goffney, I. (2018, Spring). A retrospective look at where we've been and where we might go: The Research Committee reflects upon the Judith Jacob Lectures and the Early Career Award Articles. *Connections – An official AMTE publication for the mathematics teacher education community*. Retrieved from <https://amte.net/connections/2018/03/retrospective-look-where-we%E2%80%99ve-been-and-where-we-might-go>
- Butler, K., & **Sears, R.** (2016, Fall). Using toys as manipulatives: Promoting mathematics while motivating children. *Dimensions*, 36(2), 6-13.
- Sears, R.**, & Lane, T. (2016, Winter). Integrating diversity training into doctoral programs in mathematics education. *Transformations*, 1, 37-45.
- Sears, R.**, Tran, T., Lee S. W., & Thomas, A. (2016, Winter). Function concept: Learning from history. *Transformations*, 1, 14-23.
- Sears, R.** (2016). An inherent tension: Students engaging with proof. *MathAMATYC Educator*, 8(1), 36-42.
- Hopf, F. **Sears, R.**, Torres, A., & Maher, M. (February, 2015). SMART lab: Opening doors to success in college algebra. *MathAMATYC Educator*, 6(2), 9- 14.

- Sears, R., & Chávez, Ó. (2014). Opportunities to engage with proof: The nature of proof tasks in two geometry textbooks and its influence on enacted lessons. *ZDM*, 46(5), 767-780.
- Grouws, D., Tarr, J. E., Chávez, O., Sears, R., Soria, V., & Taylan, R. D. (2013). Curriculum and implementation effects on high-school students' mathematics learning from curricula representing content organization of two types. *Journal for Research in Mathematics Education*, 44(2), 416-463.

### **Refereed Manuscripts Under Review**

Krajcevski, M. & Sears. *Hand-drawing Modeling Mathematical Objects as Sense Making Instrument in Pedagogical Practice*.

### **Edited book under review.**

Buchbinder, O., Friesen, M. & **Sears, R.** *Research on Mathematics Classroom Practices at Secondary Level*. Routledge.

This book builds on the work from the International Congress on Mathematical Education (ICME15) Topic Study Group titled *Research on Mathematics Classroom Practice at Secondary Level*. The edited book comprises a collection of articles that seek to provide the readers with extended insight into the state-of-the-art research and scholarly discussions that occurred during the conference sessions. The quality of teaching is instrumental in improving student mathematical learning. As such, the topic of the edited book is of significant interest to the international mathematics education community.

The contributions (book chapters) aim to advance the understanding of the nature, importance, and challenges related to research on classroom practice at the secondary level and to explore underlying theories, methodologies, and analytic tools supporting this research. This edited book will promote exchanges and collaboration across different education systems, with the goal of enhancing the quality of research on teaching and learning mathematics in secondary classrooms.

### **Refereed Manuscripts in Progress**

Sears, R. & Buchbinder, O. Using FullProof.io (an artificial intelligence software) to develop preservice teachers proof skills.

Davis-Cotton, D., Sears, R., Reese, A., & Jackson, D. (In Progress) Step up to your T.R.U.T.H. in arts education.

Sears, R., Cummings, K., Vernon-Jackson, S., Albritton, K. (In progress). Trauma informed practices in Intermediate Algebra.

Lue, J. & Sears, R. Catalyzing change by amplifying collective voices.

### **Refereed Book Chapters Published or Accepted**

Boyce, S., Ion, M., Pyzdrowski, L. J., An, T., Sears, R., Oppong-Wadie, K., & St. Goar, J. (Accepted). Learning from Lesson Study in GeT Courses. In Patricio Herbst and Amanda Brown (editors), *The GeT course: Resources and Objectives for the Geometry Courses for Teachers*.

McLeod, K., Sears, R., St. Goar, J., Lai, Y., & Prasad, P. (Accepted). Promoting Rigor and Proof via a Transformations-based Approach for Isometries-based Lessons in the Geometry for

- Teachers Course. In Patricio Herbst and Amanda Brown (editors), *The GeT course: Resources and Objectives for the Geometry Courses for Teachers*.
- An, T., Boyce, S., Brown, A., Buchbinder, O., Cohen, S., Dumitrascu, D., Escuadro, H., Herbst, P., Ion, M. Krupa, E., Miller, N., Pyzdrowskik, L., J., Sears, R., St. Goar, J., Szydlik, S., & Vestal, S. (2023) . *Toward) Essential Student Learning Objectives for Teaching Geometry to Secondary Pre-service Teachers*. Benken, B. M. (Ed.). *The AMTE handbook of mathematics teacher education: Reflection on past, present, and future. Paving the way for the future of mathematics teacher education. Volume 5*. IAP
- Sears, R., Potter, R., Schuler, K., & Meisels (2022). STEM Laboratory Teaching Assistants' Perspectives of a Multi-Semester Professional Development Designed to Promote Evidence Based Teaching Practices and Facilitate Equitable Opportunities. In S. M. Linder, C. Lee, and K. High (Eds). *Handbook of STEM Faculty Development*. Charlotte: NC. IAP-Information Age Publishing.
- An,T., Berzina-Pitcher, I., Bigelow, V., Buchbinder, O., Herbst, P., Milewski, A., Miller, N., Prasad, P.V., Pyzdrowski, L. J., St. Goar, J., **Sears, R\*.,** Szydlik, S., Vestal, S. (2022). A Cross-Institutional Faculty Online Learning Community: Community-Guided Faculty Development in Teaching College Geometry for Teachers. In S. M. Linder, C. Lee, and K. High (Eds). *Handbook of STEM Faculty Development*. Charlotte: NC. IAP-Information Age Publishing. **\* Names listed in alphabetical order. All authors contributed equally.**
- An, T., Boyce, S., Cohen, S., Escuadro, H., Herbst, P., Krupa, E., Milewski, A., Miller, N., Pyzdrowski, L. J., **Sears, R\*.,** Szydlik, S., & Vestal (2022). (Toward) Essential student learning objectives for teaching geometry to pre-service secondary teachers. AMTE Professional Book Series, Volume 5 entitled "*Reflection on Past, Present and Future: Paving the Way for the Future of Mathematics Teacher Education*". **\* Names listed in alphabetical order. All authors contributed equally.**
- Sears, R.,** Brosnan, P., Castro-Minnehan, C., Junor-Clarke, P., & Stone, J. (2022). Collaborating Teachers and Preservice Teachers Attention to the Elements of the Apprenticeship Model for Learning During Clinical Experiences. Drew Polly (Ed.) *Preparing Effective Teachers: Advances in Clinical Practice*. IAP
- Jessup, N., **Sears, R.,** Matthews, L. (2020). *Reengineering hope of an inclusive mathematics education*. In K. Varner, S. Bickmore, D. Hays, PG Schrader, D. Carlson, and D. Anagnostopoulos (Eds). *The corona chronicles: Necessary narratives in uncertain times*. New York: Diopress.
- Males, L., **Sears, R.,** & Lawler, B. (2020). *Equity and justice in the preparation of secondary mathematics teachers*. In The Association of Mathematics Teacher Educators (AMTE) Professional edited book series, W. G. Martin, B. R. Lawler, A. E. Lischka, &W.M . Smith (Eds). *Mathematics Teacher Education Partnership The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation* . Charlotte, NC: Information Age Publications.
- Strutchens, M. E., **Sears, R.** & Zelkowski (2020). *Improving Clinical Experiences for Secondary Mathematics Teacher Candidates*. In The Association of Mathematics Teacher Educators (AMTE) Professional edited book series, W. G. Martin, B. R. Lawler, A. E. Lischka, &W.M . Smith (Eds). *Mathematics Teacher Education Partnership The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation* . Charlotte, NC: Information Age Publications.



- Strutchens, M.E., Erickson, D., **Sears, R.**, & Zelkowski, J. (2020). Clinical Experiences for Secondary Mathematics Teacher Candidates. In The Association of Mathematics Teacher Educators (AMTE) Professional edited book series, W. G. Martin, B. R. Lawler, A. E. Lischka, & W.M. Smith (Eds). *Mathematics Teacher Education Partnership The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation* . Charlotte, NC: Information Age Publications.
- Grady, M., **Sears, R.**, Stone, J., & Biagetti, S. (2020). Using co-planning and co-teaching strategies to transform secondary mathematics clinical experiences. In The Association of Mathematics Teacher Educators (AMTE) Professional edited book series, W. G. Martin, B. R. Lawler, A. E. Lischka, & W.M. Smith (Eds). *Mathematics Teacher Education Partnership The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation* . Charlotte, NC: Information Age Publications.
- Strutchens, M. E., **Sears, R.**, Whitfield, J., Biagetti, S., Brosnan, P., Oloff-Lewis, J., ... & Conway IV, B. M. (2019). Implementation of Paired Placement and Co-Planning/CoTeaching Field Experience Models Across Multiple Contexts. In Thomas E. Hodges and Angela C. Baum (Eds). *Handbook of Research on Field-Based Teacher Education*(pp. 32-63). IGI Global. DOI: 10.4018/978-1-5225- 6249-8.ch002
- Sears, R.**, Brosnan, P., Oloff-Lewis, J., Gainsburg, J., Stone, J., Spencer, C., Riggs, L., Biagetti, S., Cayton, C., Grady, M., Junor-Clarke, P., & Andreason, J. (2017). Using improvement science to transform clinical experiences with co-teaching strategies. *Annual perspectives of mathematics education (APME) 2017: Reflective and collaborative processes to improve mathematics teaching.* (pp. 265-273). NCTM: Reston, VA.
- Sears, R.**, Karadeniz, I., Butler, K., & Pettey, D. (2015). Are standards for mathematical practice overlooked in geometry textbooks' chapter tests? *Annual perspectives in mathematics education (APME) 2015: Assessment to enhance learning and teaching* (pp. 75-97). NCTM: Reston, VA.

### Technical Reports

- Sears, R.**, Gallardo, G., Reese, G. D., Dutton, T., Reichgelt, J., McHale, J. P., Akiwumi, F., Edmond, J., Bradham-Cousar, M., Blackshear, J., & Thompson-Dorsey, D. (2021). Examination of Historical and Modern-Day Impact of Structural Racism on the Lives of Black People in the City of St. Petersburg, Florida. [Commissioned and Funded Study by the City of St. Petersburg, Florida]. *USF St. Petersburg campus Faculty Publications.* 4117. [https://digitalcommons.usf.edu/fac\\_publications/4117/](https://digitalcommons.usf.edu/fac_publications/4117/)
- Lubiento, J., & **Sears, R.** (2017). MyLab Math with MyLabsPlus educator study examines Workspace assignment impact in intermediate algebra at University of South Florida. *Pearson Educator Study.* Retrieved from <http://www.pearsoned.com/results/mylab-math-mylabs-plus-educator-study-examines-workspace-assignment-impact-intermediate-algebra-university-south-florida/>
- Hopf, F., **Sears, R.**, Torres, A., Maher, M., & McWater, M. (2014). University of South Florida MylabsPlus – emporium model. *Pearson White Paper Report.* Retrieved from [http://www.pearsonmylabandmastering.com/northamerica/results/files/U\\_of\\_S\\_F\\_L.pdf](http://www.pearsonmylabandmastering.com/northamerica/results/files/U_of_S_F_L.pdf)
- Sears, R.**, Hopf, F., Maher, M & Torres, A. (2014). College students' perspectives of the “help me solve this” tool on their learning of mathematics. *Pearson Efficacy Report.* Retrieved

from [http://www.pearsonmylabandmastering.com/northamerica/results/files/U\\_of\\_South\\_FL\\_Dec\\_18.pdf?v1421173237](http://www.pearsonmylabandmastering.com/northamerica/results/files/U_of_South_FL_Dec_18.pdf?v1421173237)

### Web Blogs

- Sears, R., Davis-Cotton, D., Reese, A., Cruz Bohorquez, J. (November 27, 2023) Fostering a Sense of Belonging through Nature and Nurture in STEM. Blog for AAAS S-STEM REC [https://sstemrec.aaas.org/blog/fostering-a-sense-of-belonging-through-nature-and-nurture-in-stem/?adobe\\_mc=MCMID%3D48046517074851670402882406302270021018%7CMCORGID%3D242B6472541199F70A4C98A6%2540AdobeOrg%7CTS%3D1701100091](https://sstemrec.aaas.org/blog/fostering-a-sense-of-belonging-through-nature-and-nurture-in-stem/?adobe_mc=MCMID%3D48046517074851670402882406302270021018%7CMCORGID%3D242B6472541199F70A4C98A6%2540AdobeOrg%7CTS%3D1701100091)
- Cattell, A., Frost, L., & Sears, R. (2022). Flying with Sankofa: Moving forward by learning from the past. Accelerating Systemic Change Network (ASCN). \* **Names listed in alphabetical order. All authors contributed equally.** [https://ascnhighered.org/ASCN/dei\\_stemm\\_blog/259449.html](https://ascnhighered.org/ASCN/dei_stemm_blog/259449.html)
- Cattell, A., Griffith, K., & Sears, R. (2022). Enacting Rightful Presence to Promote Students' Belonging. Accelerating Systemic Change Network (ASCN). \* **Names listed in alphabetical order. All authors contributed equally.** <https://ascnhighered.org/ASCN/posts/248770.html>
- Davis-Cotton, D., Sears, R., Reese, A., & Salmon, A. (2022). Using the T.R.U.T. H. Framework to Advance Inclusive and Equitable Pedagogy in Education. Blog for American Association for the Advancement of Science (AAAS) Advancing Research and Innovation in the STEM Education (ARISE ) of Preservice Teachers in High-Needs School District. <https://aaas-arise.org/2022/02/02/using-the-t-r-u-t-h-framework-to-advance-inclusive-and-equitable-pedagogy-in-education/>
- Boyce, S., Ion, M., Mcleod, K., Pyzdrowski, L., **Sears, R.**, & St. Goar, J. (2021, May 7). Best-Laid Co-Plans for a Lesson on Creating a Mathematical Definition. Blog for American Mathematical Society <https://blogs.ams.org/matheducation/2021/05/06/best-laid-co-plans-for-a-lesson-on-creating-a-mathematical-definition/>
- Sears, R.**, & Pinder, C. (2021, April 15). 5 Strategies to Use Assessment Purposefully. *Kappa Delta Pi Blog*. Retrieved from <https://blog.kdp.org/2021/04/15/5-strategies-to-use-assessment-purposefully/>
- Sears, R.**, Matthews, L., & Jessup, N. (2021, February). *Reimagining STEM Education Pipeline for Teachers of Color*. Blog for American Association for the Advancement of Science (AAAS) Advancing Research and Innovation in the STEM Education (ARISE ) of Preservice Teachers in High-Needs School District <https://aaas-arise.org/2021/02/16/reimagining-the-stem-education-pipeline-for-teachers-of-color/>
- Sabella, L., **Sears, R.**, & Castro-Minnehhan (January 6, 2021). Interrupted Student-Teaching Experiences: 6 Tips to Get to the Finish Line . *Kappa Delta Pi Blog*. Retrieved from <https://blog.kdp.org/tag/online-teaching/>
- Pinder, C., **Sears, R.**, & Butler, K. (2017). *Workspace: An online assessment that allows intermediate algebra students to show their work*. Retrieved from <http://www.pearsoned.com/workspace-intermediate-algebra-students/>

- Torres, A., **Sears, R.**, Hopf, F., Williams, C. (2017). *The benefits of interdisciplinary conversations in transforming mathematics courses*. Retrieved from <http://www.pearsoned.com/education-blog/conversations-mathematics-student-performance/>
- Sears, R.**, Hopf, F., Torres, A., & Krajevski, M. (2016). *Utilizing MyMathTest to ensure preservice secondary teachers are prepared for state certification exams*. Retrieved from <http://www.pearsoned.com/education-blog/teachers-prepared-certification-exams/>
- Sears, R.**, Hopf, F., Torres, A., & Krajevski, M. (2015). *Math talk that builds understanding: Explain, justify and validate*. Retrieved from <http://www.pearsoned.com/education-blog/math-talk-that-builds-understanding-explain-justify-and-validate/>
- Sears, R.**, Torres, A., Hopf, F., & Krajevski, M. (2015). *Checklist for scaling up a student learning initiative in mathematics*. Retrieved from <http://www.pearsoned.com/education-blog/checklist-for-scaling-up-a-student-learning-initiative-in-mathematics>

### **Dissertation**

- Sears, R. (2012).** *An examination of how teachers use curriculum materials for the teaching of proof in high school geometry*. (Doctoral Dissertation). University of Missouri, Columbia Missouri.

### **Refereed Proceedings**

#### ***International***

- Henderson, M., Trotz, M. A., Wells, E. C., Carrasquillo, M. E., **Sears, R.**, Alfredo, K. A., & Cobb-Roberts, D. (2024, June). Integrating Environmental Justice into Civil and Environmental Engineering Curricula. In *2024 ASEE Annual Conference & Exposition*. Portland, Oregon
- Fenech, M., Farid, A., Anderson, E., Lin, G. & **Sears, R** (2024, June 10-14). Alleviating Tensions between Culturally Relevant Pedagogy and Mathematical Practices of Proof. [Paper]. International Society of the Learning Sciences 2024. Buffalo New York.
- Fenech, M., Farid, A., Anderson, E., Lin, G. & **Sears, R** (2024, June 10-14). A Comprehensive Strategy for Scaffolding the Development of Students' Mathematical Proof Skills Across a Learning Progression. [Paper]. International Society of the Learning Sciences 2024. Buffalo New York.
- Sears, R.**, Green, A. (2024, July 7-14). Intermediate Algebra students attitude and perception about mathematics. [Paper] 15<sup>th</sup> International Congress on Mathematics Education. Sydney, Australia
- Sears, R.**, McPhee, T., Elliott-Ferguson, M., McWilliam, R., Edgecombe, R., & Potter, R. Secondary mathematics teachers practice to diagnose and address students learning difficulties. [Poster] 15<sup>th</sup> International Congress on Mathematics Education. Sydney, Australia
- Daniel, C., & **Sears, R.** (2023, June 23) "*Literacy versus Industry Certification: An Education System Paradox*", VI Paradox & Plurality Meeting, Nova SBE, Carcavelos, Portugal.
- Sears, R.**, Castro-Minnehan, C., Riggs, L., Junor Clarke, P., Stone, J., Cayton, C., Oloff-Lewis, J., Grady, M., Brosnan, P., & Strutchens, M. (2020, July 11-20). Preservice teachers and collaborating teachers' perspectives of using co-planning and co-teaching during clinical

- experiences in secondary mathematics. [Paper]. 14<sup>th</sup> international Congress on Mathematical Education (ICME-14). Beijing, China.
- Sears, R.**, Strutchens, M., Lawler, B., Dupree, L., Pinder, C., Castro-Minnehan, C. (2020, July 11-20). Secondary mathematics preservice teachers perspective of means to facilitate equitable learning opportunities. [Paper]. 14<sup>th</sup> international Congress on Mathematical Education (ICME-14). Beijing, China.
- Kersaint, G., & **Sears, R.** (2016, July 24-31). Partnership to design a middle school mathematics teacher preparation program with extensive clinical experiences. [Poster]. *13th International Congress on Mathematical Education (ICME-13)*. Hamburg, Germany.
- Sears, R.**, Brosnan, P., Grady, M., Cayton, C., Oloff-Lewis, J., Biagetti, S., Stone, J., Andreasen, J., Maynor, J., Hollebrands, K., Spencer, C., Riggs, L., & Gainsburg, J. (July 24-31, 2016). A collaborative effort to examine co-planning and co-teaching during clinical experiences. [Research report]. *13th International Congress on Mathematical Education (ICME-13)*. Hamburg, Germany.
- Sears, R.**, & Chavez, O. (2015, February, 4-8). Students of two-curriculum types performance on a proof for congruent triangles. *Proceedings of the Ninth Congress of European Research in Mathematics Education (CERME 9)*. Prague, Czech Republic.
- Karadeniz, I., **Sears, R.**, & Colak, A. (2013, February 4-10). The effect of Google Sketch Up on elementary pre-service teachers attitude towards using technology in mathematics. [Poster]. *Proceedings of the Eight Congress of European Research in Mathematics Education (CERME 8)*. Antalya, Turkey.
- Sears, R.** (2013, February 5-10). A case study of the enactment of proof tasks in high school geometry. *Proceedings of the Eighth Congress of European Research in Mathematics Education (CERME 8)*. Antalya, Turkey.
- Sears, R.**, Mueller-Hill, E., & Karadeniz, I. (2013, November 5-8). Preservice teachers' perception of their preparation program to cultivate their ability to teach proof. *Proceedings of the First Congress on Mathematics Education for Central America and the Caribbean (I CEMACYC)*. Santo Domingo, Dominican Republic.
- Grouws, D., Tarr, J. E., Chávez, O., **Sears, R.**, Soria, V., & Taylan, R. D. (2012, April 13-17) Curriculum and implementation effects on high-school students' mathematics learning from two curricula content organizations. *Proceedings of the American Educational Research Association Annual Meeting*. Vancouver, British Columbia.
- Sears, R.** (2012, July 8-15). The impact of subject-specific curriculum materials on the teaching of proof and proof schemes in high school geometry classrooms. *Proceedings of the Twelfth International Congress on Mathematical Education (ICME-12)*. Seoul, Korea.

### ***National***

- Berzina-Pitcher, I., Ion, M., An, T., Buchbinder, O., Herbst, P., Milewski, A., Miller, N., Prasad, P., Pyzdrowski, L., St. Goar, J., **Sears, R.**, Szydluk, S., & Vestal, S. (2022, April 21-26) Learning and Participating in Scholarship of Teaching and Learning Through a Faculty Online Learning Community. Paper presented at the American Educational Research Association (AERA). San Diego, California. \* Names are in alphabetical order.
- Potter, R. L., Meisels, G. G., Stiling, P., Yee, K., **Sears, R.**, Beneteau, C. A., ... & Campbell, S. W. (2021, July). Systemic Transformation of Education Through Evidence-based Reform (STEER): Results and Lessons Learned. In *2021 ASEE Virtual Annual Conference Content Access*.

- Sears, R.** & Castro-Minnehan, C. (2019, June 23-26). *Using Co-Teaching to Develop Classroom Mathematical Discourse During Clinical Experiences*. Mathematics Teacher Educator Partnership, MTEP 2019, St. Louis, MO.
- Sears, R.**, Weiland, T., Lawler, B. R. (2019, June 23-26). *Equity and Social Justice Working Group*. Mathematics Teacher Educator Partnership, MTEP 2019, St. Louis, MO.
- Strutchens, M., **Sears, R.**, Zelkowski, J., Edwards, B., Conway, B., & Mangram, C. (2019, June 23-26). *Clinical Experiences*. Mathematics Teacher Educator Partnership, MTEP 2019, St. Louis, MO.
- Sears, R.**, Grady, M., Cayton, C., Bronson, P., Ahmad, S., Castro-Minnehan, C., (2018, June 25–27). *Implications of a Co-Planning and Co-Teaching Professional Development Training for Preservice Teachers and Collaborating Teachers*. Mathematics Teacher Educator Partnership, MTEP 2018, Denver, CO.
- Cayton, C., Grady, M., Preston, R. V., **Sears, R.**, Oloff-Lewis, J., & Brosnan, P. (2017, October 5-8). Improving preservice secondary mathematics clinical experiences through co-planning and co-teaching. Working group sessions at the International Group for the Psychology of Mathematics Education (PME) – North American Chapter. Indianapolis, IN.
- Ellis, M., Strutchens, M. & **Sears, R.** (2017, June 26-27). Focusing on Equity with the MCOP2 indicators. *Proceedings in the APLU - Mathematics Teacher Education Partnership*. New Orleans, LA.
- Brosnan, P., & **Sears, R.** (2017, June 27-28). Co-planning and co-teaching from preservice teachers to in-service teachers. *Proceedings of the APLU- Mathematics Teacher Education Partnership Meeting*. New Orleans, LA.
- Junor-Clarke, P., & **Sears, R.** (2017, June 27-28). Transforming internship thinking: Using improvement science to enhance co-teaching for student teaching. *Proceedings of the APLU- Mathematics Teacher Education Partnership Meeting*. New Orleans, LA.
- Sears, R.**, Potter, R., Meisels, G., & Raley, V. (2017, June 25). “STEER”ing the Systematic Approach to Improve Learning: A Hillsborough Community College- University of South Florida Partnership. *Proceeding of the Accelerating Systemic Change in STEM Higher Education (ASCN) / Science and Mathematics Teacher Imperative (SMTI) Annual Meeting*. New Orleans, LA.
- Sears, R.**, Lewis, J., Raley, V., Meisels, G., & Potter, R. (2017, June 23). On the road to culture change: Making evidence based teaching the norm in STEM at a research 1 university. [Poster]. *Proceedings of the APLU - Science and Mathematics Teacher Imperative (SMTI) Annual Meeting*. New Orleans, LA.
- Sears, R.**, Brosnan, P., Oloff-Lewis, J., Gainsburg, Stone, J., Biagetti, S., Cayton, C., Grady, M., Spencer, C., Riggs, L., & Junor-Clarke, P. (2017, January 3-7). Co-teaching mathematics: A shift in paradigm to promote student success. *Proceedings of the 15th Annual Hawaii International Conference on Education*. Honolulu, HI.
- Sears, R.**, Butler, K., Hopf, F., & Skrzypek, L. (2017, January 3-7). Transforming secondary mathematics curriculum to promote interdisciplinary STEM concepts. *Proceedings of the 15th Annual Hawaii International Conference in Education*. Honolulu, HI.
- Brosnan, P., & **Sears, R.** (2016, June 26-28). Using improvement science to increase mathematical learning through co-planning and co-teaching. *Proceedings of the APLU- Mathematics Teacher Education Partnership Meeting*. Atlanta, GA.

- Chavez, O., & **Sears, R.** (2016, October 20-22). Formal and informal proofs in secondary geometry. *Proceedings of the School Science and Mathematics Association (SSMA) Annual Meeting*. Phoenix, AZ.
- Iiams, I., **Sears, R.**, Ellis, M., & Strutchens, M. (2016, June 26-28). A deeper dive into plan-do-study-act cycles and measures. *Proceedings of the APLU- Mathematics Teacher Education Partnership Meeting*. Atlanta, GA.
- Sears, R.**, Secada, W., Cohen, M., & Roderick, A. (2016, June 20-22). Preparing current and prospective teachers for STEM teaching and learning opportunities of the future: A twenty-year projection. *Proceedings of the AAAS Working Group Meeting on Identifying a Research Agenda for Preservice STEM Teacher Education*. Washington, D.C.
- Strutchens, M., Iiams, M., & **Sears, R.** (2016, June 26 -28). Clinical experiences research action cluster: MTEP conference report. *Proceedings of the APLU - Mathematics Teacher Education Partnership Meeting*. Atlanta, GA.
- Butler, K., & **Sears, R.** (2015, February 26-28). Technology in intermediate algebra: Effects on anxiety and opportunity to learn. *Proceedings of the Research Council for Mathematics Learning (RCML)*. Las Vegas, NV.
- Krajcevski, M., & **Sears, R.** (2015, October, 23-24). Pre-service teachers' misconceptions about visual representations of altitude, median and angle bisector of a triangle. *Fall Western Sectional Meeting of American Mathematical Society (AMS)*. Fullerton, CA.
- Sears, R.**, & Kersaint, G. (2014, June 4). The transformation of middle school STEM teacher preparation program: A collaborative design. [Poster]. *APLU - Science and Mathematics Teacher Imperative (SMTI) National Conference*. Milwaukee, WI.
- Sears, R.**, & Chavez, O. (2013, April 27-May 1). Comparative analysis of task features and levels of cognitive demand of proofs in geometry textbooks. *Proceedings of the American Educational Research Association (AERA) Annual Meeting*. San Francisco, CA.
- Sears, R.** (2011, October 20-23). An examination of preservice mathematics teachers' proof schemes. *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Reno, NV.
- Grouws, D., Tarr, J., **Sears, R.**, & Ross, D. (2010, January 7-11). Mathematics teachers' use of instructional time and relationships to textbook organization and class period format. [Poster]. *Proceedings of the Hawaii International Conference for Education*. Honolulu, HI.
- McNaught, M., Tarr, J., & **Sears, R.** (2010, April 29-May 5). Conceptualizing and measuring "fidelity of implementation" of secondary mathematics textbooks: Results of a 3-year study of curriculum implementation. *Proceedings of the American Educational Research Association (AERA) Annual Meeting*. Denver, CO.
- Sears, R.**, Taylan, R. D., & Tarr, J. (2010, October 28-31). Associations between secondary mathematics teachers' beliefs, background characteristics, and dimensions of curriculum implementation [Poster]. *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education Annual Meeting*. Columbus, OH.
- Tarr, J., Ross, D., McNaught, M., Chavez, O., Grouws, D., Reys, R., **Sears, R.**, & Taylan, R. D. (2010, April 29-May 5). Identification of student-and-teacher level variables in modeling variation of mathematics achievement data. *Proceedings of the American Educational Research Association (AERA) Annual Meeting*. Denver, CO.

## Newsletters

**Sears, R.,** Buchbinder, O. ( Fall, 2024). Using polygons card sort activity to attend to precision in geometric vocabulary and concepts. *GeT the News!* 6(1), p.5-9, GRIP – Marshal Family School of Education at University of Michigan. [https://www.gripumich.org/wp-content/uploads/2025/01/GeT\\_-\\_The-News-Volume-6-Issue-1-Fall-2024-%E2%80%93-GRIP-v2.pdf](https://www.gripumich.org/wp-content/uploads/2025/01/GeT_-_The-News-Volume-6-Issue-1-Fall-2024-%E2%80%93-GRIP-v2.pdf)

## Newspaper Articles

**Sears, R.** (2012, August 15). BGCSE National Average: An Illusion. *The Nassau Guardian*. Nassau, Bahamas.

**Sears, R.** (2012, August 16). BGCSE National Average: An Illusion. *The Freeport News*. Nassau, Bahamas.

**Sears, R.** (2012, August 28). BGCSE National Average: An Illusion. *The Tribune*. Nassau, Bahamas.

## GRANT WORK

### Funded

Title : Mechatronics Integrated into STEM Teaching for Transformative Inclusive Communities (MISTTIC)  
Date 2024-2029  
Proposed Budget \$3,000,000  
Source of Funding National Science Foundation  
Senior Leadership Team: Ruthmae Sears (PI), Robert Potter (Co-PI), Alexandro Castellano (Co-PI), Brandy Jackson( Co-PI), Stephanie Arthur (Key Personnel)  
Role: Principal Investigator (PI)  
Brief Project Description: This program will support Master Teacher Fellows (MTF) obtain a master's of education degree, and micro credentials in mechatronics in collaboration with Advanced Manufacturing and Robotics Center (AMRoC) of Tampa Bay.

Title: RTG: Applied Algebra at the University of South Florida  
Date 2024- 2029  
Budget \$2,497,545  
Source of Funding National Science Foundation  
Senior Leadership Team: Jean Francois- Biasse (PI)  
Role: Key Personnel and Educational Consultant  
Brief Project Description: This project consists in a vertically integrated Research Training Group in Applied Algebra. The program includes training of postdocs, graduate, and undergraduate students.

Title : Blueprint for Social Justice, Diversity, Equity and Inclusion in STEMM: An Open Education Resource Collection

Date: 2024  
Budget: \$10,000  
Source of Funding: RIOS Institute  
Senior Leadership Team: Pat Marsteller (BioQUEST), Sharon Homer Drummond( AAAS Science and Technology Fellow); Melissa Haswell( BioQUEST/HHMI Higher Ed Ambassador) ; Ruthmae Sears, Mathematics Education Professor and ASCN Working Group co-Chair) and Kristin Butela.  
Role: Senior Leadership Team member  
Brief Project Description: Our aim is to create an evolving open education resource to provide change agents, faculty, and faculty development practitioners with materials to adopt, adapt, and repurpose to address social justice and diversity, equity and inclusion issues in STEMM education.

Title: Challenging Anti-Black Racism in Civil and Environmental Engineering Curriculum  
Date: June 2022- July 2026  
Proposed Budget: \$1,500,000  
Source of Funding: National Science Foundation (#2142714)  
Senior Leadership Team: Maya Trotz (Principal Investigators), Christian Wells(co-Principal Investigator), (co-Principal Investigator), Katherine A. Alfredo (co-Principal Investigator), Ruthmae Sears(co-Principal Investigator), and Amy Stuart (co-Principal Investigator).  
Role: Co-Principal Investigator  
Brief Project Description: Facilitate a systemic approach of addressing anti-black racism in civil and environmental engineering curriculum.

Title: Examination of historical and modern-day impact of structural racism on the lives of Black people in the City of St. Petersburg, Florida  
Date: February 2021- December 2021  
Funded Budget: \$50,000  
Source of Funding: City of St. Petersburg  
Senior Leadership Team: Ruthmae Sears (Principal Investigator), Johannes Reichgelt (co-Principal Investigator), James McHale (co-Principal Investigator), Gwendolyn Reece (co-Principal Investigator), Gypsy Gallardo (co-Principal Investigator), Tim Dutton (co-Principal Investigator), Fenda Akiwumi (co-Principal Investigator), Dana Thompson - Dorsey (co-Principal Investigator).  
Role: Principal Investigator  
Brief Project Description: Examine both the historical and modern-day impact that structural racism has had on the lives of Black people in the City of St. Petersburg, Florida (<https://www.usf.edu/arts->



[sciences/institutes/black-life/structural-racism/index.aspx](https://www.usf.edu/arts-sciences/institutes/black-life/structural-racism/index.aspx) ). This work was featured in various news outlets (<https://www.usf.edu/arts-sciences/institutes/black-life/structural-racism/news-archive.aspx> ), inclusive of: The Weekly Challenger, The Tampa Bay Times, WUSF Public Media, ABC Action News, CW 44, The Oracle, Florida Politics, and The Power Broker.

Title Collaborative Research: Attaining Excellence in Secondary Mathematics Clinical Experiences with a Lens on Equity (#1726853)  
Date: August 2017-2022  
Funded Budget: USF is allocated \$379,729. The total funded amount is \$1,579,027.  
Source of Funding: National Science Foundation  
Senior Leadership Team: Dr. Marilyn Strutchens from Auburn University, Dr. Ruthmae Sears from University of South Florida, and Howard Gobstein from the Association of Public and Land-grant Universities (APLU).  
Role: Principal Investigator  
Brief Project Description: This project will examine the nature of clinical experiences in 24 universities in the United States with an attention placed on pre-service teachers' equitable implementation of the Mathematics Teaching Practices (MTPs) (National Council of Teachers of Mathematics [NCTM], 2014).

Title: Robert Noyce USF Scholarship Program for Science Majors ((# Robert Noyce - 1439776)  
Date: 2014 – 2019. I worked on the project since February 2017.  
Funded Budget: \$1,199,843  
Source of Funding: National Science Foundation  
Senior Leadership Team: Dr. Allan Feldman, Dr. Gerry Miesels, Mr. Larry Plank, and Mr. Luanna Prevost.  
Role: Co-Principal Investigator.  
Brief Project Description: Provide scholarships to 36 students who majors in biology, chemistry, geosciences, mathematics and physics to complete a Masters of Arts in Teaching (MAT) degree with certification in secondary science or mathematics. I will have to monitor the graduates 5 years beyond graduating.

Title: Using Manipulatives and Calculators to Facilitate Students' Engagement in Middle Grades Mathematics  
Date: January – May, 2017  
Funded Budget: \$2,000  
Source of Funding: University of South Florida Anchin Center- Bank of America Funds  
Senior Leadership Team: Dr. Ruthmae Sears, Dr. Kenneth Butler, Ms. Lakesia Dupree, Ms. Nadine Johnson, and Ms. Bridgette Bowles  
Role: Principal Investigator

Brief Project Description: The project provides professional development training to in-service mathematics teachers, that illustrates how physical manipulatives and technology (i.e. calculators) can be used to facilitate students' engagement with mathematics lessons, and foster active learning.

Title: NASA STEM Education Constellation - Network of Evidence-Based STEM Educator Professional Development

Date: November 2014 - August 2016

Funded Budget: \$200,000

Source of Funding: Sub-contract from Texas State University's NASA funded project

Senior Leadership Team: Eugenia Vomvoridi-Ivanovic and Ruthmae Sears

Role: co-Principal Investigator

Brief Project Description: Facilitate professional development training using NASA curriculum resources

**Involvement in Grant Related Activities as a Consultant, Working Group Member, Key Personnel, etc.**

Title: Advancing the Culture of Teaching in STEM through Diffusion of Strength-Based Reflexivity (ACT-STEM)

Date: 2024- 2029

Funded budget: \$1,200,000

Source of Funding: National Science Foundation

Role: Advisory Board Member

Brief Project Description: The project is designed to enhance the culture of teaching using the "TRIOS" model.

Title: American Association for the Advancement of Science (AAAS) and NSF-IUSE 2023 Levers for Change Meeting

Date: July 30- August 1, 2023

Role: Working group member for mathematics education.

Title : Program Assessment Conference for Mathematics: Creating Tools for Math Departments to Self-Assess Professional Development Programs for their Graduate Student Instructors (**PAC-Math**)

Date: March – November, 2023

Funded Budget: \$99,999.00

Source of Funding: National Science Foundation

Senior Leadership Team: Lauren Clark (PI)

Role: Working Group Member that provided insights as to how the change idea can be enacted and sustained over time.

**Brief Project Description:** This project sought to develop tools mathematics department can use to support graduate teaching assistants enact high impact practices and develop as scholars.

**Title:** The modernization of Digital Information Technology  
**Date:** 2022-2023  
**Funded Budget:** \$ 625,196  
**Source of Funding :** Florida Department of Education and Cyber Florida. This subaward is issued pursuant to the grant, "CRRSA GEER II - Cybersecurity and IT Pathways Expansion Grant," 291-1231C-2C00  
**Senior Leadership Team:** Ron Sanders (PI) and Clinton Daniel (co-PI)  
**Role:** Curriculum Consultant  
**Brief Description:** The project reflects on strategies to integrate digital instructional technology in Hillsborough County Public Schools. A textbook created as a result of the project is available online at <https://digitalcommons.usf.edu/dit/>

**Title:** Alliance-Building Offshore to Achieve Resilience and Diversity (All-ABOARD) (2035093)  
**Date:** January 2021- July 2023  
**Funded Budget:** \$299,781.00  
**Source of Funding:** National Science Foundation  
**Senior Leadership Team:** Sharon Cooper (principal investigator) and Benjamin Keisling (co-principal investigator)  
**Role:** Key Personnel  
**Brief Project Description:** Develop "A BullsEye for JEDI" to describe strategies to promote justice, equity, diversity and inclusion at USF  
<https://www.usf.edu/marine-science/news/2021/usf-team-selected-to-join-new-nsf-diversity-program.aspx>

**Title:** American Association for the Advancement of Science (AAAS) Noyce Summit  
**Date:** August 2017- 2019  
**Role:** STEM Education Consultant

**Title:** University of Michigan - Geometry, Reasoning, and Instructional Practices  
**Date:** August 2018- Present  
**Senior Leadership Team:** Patricio Herbst (Principal Investigator), Amanda Milewski (co-Principal Investigator), Inese Berzina- Pitcher (Project Manager)  
**Role:** Member of Working Groups supporting geometry teaching and learning.

Title: University of South Florida Systemic Transformation of Evidence-Based Education Reform (STEER) Grant (NSF - #DUE 1525574)  
Date: January 2016 - Present  
Source of Funding: National Science Foundation  
Role: A member of the Transition Implementation Leadership Team (TILT)  
Brief Project Description: The STEER project supports faculty in the implementation of evidence-based teaching strategies by providing funding for professional development and supporting students in the STEM career transition from community colleges. The link to the STEER website is <https://www.usf.edu/atle/steer/about-us/index.aspx> . Additionally, highlights of STEER accomplishments over the years can be viewed online at <https://www.youtube.com/watch?v=F9MeVjb3ZKM>

Title: Helios STEM Middle School Residency Program  
Source of Funding: Helios Foundation  
Date: August 2012-2016  
Role: Key personnel

Title: Comparing Options in Secondary Mathematics: Investigating Curriculum (COSMIC)  
Date: January 2009 - December 2011  
Source of Funding: National Science Foundation  
Senior Leadership Team: Dr. Douglas Grouws, Dr. James Tarr, and Dr. Oscar Chavez  
Role: Graduate Research Assistant

Title: Researching Science and Mathematics Teacher Learning in Alternative Certification Model (RESMAR2T)  
Date: September 2008- May 2009  
Source of Funding: National Science Foundation  
Senior Leadership Team: Dr. Sandra Abell, Dr. John Lannin, Dr. Kathryn Chval  
Role: Graduate Research Assistant

### **FUNDED CONTRACTS**

Title: Making Real World Mathematics Connections in Middle and Upper High School Mathematics Curriculum at Tampa Preparatory School.  
Date: April – June, 2019  
Funded Budget: \$2,000  
Source of Funding: Tampa Preparatory School  
Senior Leadership Team: Ruthmae Sears, Sanghoon Park, and Mile Krajcevski.

Role: Principal Investigator  
 Brief Project Description: Review School mathematics curriculum and make recommendations to amplify the relevance and practicality of mathematics, and the integration of technology.

Title: Using Improvement Science to Transform STEM curriculum at Carrollwood Day School  
 Date: June 2016- May 2017  
 Funded Budget: \$20,000  
 Source of Funding: Carrollwood Day School  
 Senior Leadership Team: Dr. Ruthmae Sears and Dr. Kenneth Butler  
 Role: Principal Investigator  
 Brief Project Description: The project use improvement science research design to transform the STEM curriculum at Carrollwood Day School, by attending to the NCTM (2014) Principles to Action, promoting inquiry-based learning, and cultivating students' engagement with mathematics.

## SCHOLARLY PRESENTATIONS

### Invited and/or Keynote Presentations

- Sears, R.** (2024, November 13). *Mechatronics Integrated into STEM Teaching for Transformative Inclusive Communities*. Invited presentation for the Florida Association of Mathematics Teacher Educators (FAMTE) Symposium. Virtual
- Sears, R.** (2024, November 13). *Structural Racism and Coalition building on Campus*. Invited panelist address for the TRHT Justice Fellows meeting. Virtual
- Sears, R.** (2024, September 21). *Driven by a vision: Excellence*. Invited keynote address for the AAUW Tampa Branch Tech Trek Meeting. Tampa, FL
- Sears, R.** (2024, September 18). Unleash the power of education: Enacting inclusive and equitable instructional practices to close achievement and opportunity gaps. Invited presentation for the University of South Florida Sustain-A-Bull Series focusing on the United Nation Sustainable Goal 4 “Quality Education”. Virtual.
- Sears, R.** (2024, April 16). Mindset to mastery: The inclusive teaching course. Invited panelist for the University of Connecticut Center for the Integration of Research, Teaching and Learning (CIRTL). Virtual
- Sears, R.** (2024, February 24- March 1). *Resilience in Education: Navigating the next 50 years*. Keynote speaker for University of the Bahamas Educational Research Conference. New Providence, Bahamas.
- Sears, R.** (2024, February 24-March 1). *From ideation to publication: Embarking on the journey towards scholarly publication*. Featured speaker for University of the Bahamas Educational Research Conference. New Providence, Bahamas.
- Sears, R.** (2024, February 21). Catalyzing access and opportunities in STEM Education to broaden participation and develop reasoning and proof skills. Invited Keynote Presentation for USF AAAS Inductee awards luncheon. Tampa, FL **(Postponed until 2025)**

- Sears, R.** (2024, January 30). Invited Panelist to discuss the importance of mathematics education in the diaspora. Panel Presentation organized by the Bahamas Consulate in Washington DC.
- Sears, R.,** Bakytbek, A., Kurmankan, G., & Song, C. (2023, November 3). *Using GeoGebra to develop a conceptual understanding of geometrical concepts*. Invited presentation for the FAMTE 2023 Virtual Symposium Empowering Mathematical Minds: Promoting Equitable Outcomes and Innovation in Mathematics Teacher Education. Virtual
- Sears, R.** (2023, November 4). *Examination of historical and modern-day impact of structural racism on the lives of Black people in the City of St. Petersburg, Florida Progress towards transformative changes to promote racial justice and equitable opportunities for all*. Invited address to St. Petersburg. Truth, Racial Healing and Transformation (TRHT). Virtual
- Sears, R.** (2023, July 26). Commentary on Observation Protocols and Other Tools for Evaluation of Teaching. Presentation at the Equitable and Effective Teaching 3<sup>rd</sup> Committee Meeting held at the National Academies of Sciences, Engineering and Medicine. Washington, DC
- Sears, R.** (2023, June 8). Forward, upward, onward, together. Commencement Keynote address for San Salvador Central High School. San Salvador Bahamas
- Sears, R.** (2023, March 23). Driven by a vision. Presentation to the San Salvador Central High School Ruby Club. Virtual. San Salvador, Bahamas
- Sears, R.** (2022, September 17). Using a change dashboard to catalyze change in a mathematics classroom. Knowledgehook Community of Practice Presentation for teachers.
- Sears, R.** (2022, July 12) *Prioritizing Mathematics Teachers' Development to Promote Student Success by Attending to the 5 Rs*. Knowledgehook Community of Practice Presentation for Administrators.
- Sears, R.** (2022, July 18). *A Blueprint to Attend to Justice, Equity, Diversity, and Inclusion (JEDI) in STEM Curriculum. Biology and Mathematics Institute*. Invited Keynote speaker for Biology and Mathematics Education (BIOME) Institute.  
<https://qubeshub.org/community/groups/summer2022/schedule/keynotes>
- Sears, R. (2022).** *Using the BIG-M to promote access and equity in mathematics*. Featured speaker at Florida Council of Teachers of Mathematics (FCTM) Annual Meeting.
- Sears, R.** Gallardo, G., Edmond, J., & Blackshear, J. (2022, April 5). Taking steps to address structural racism in St. Petersburg. Presentation in Dr. Julie Langford HIS 6163- Beyond the Book course. University of South Florida. St. Petersburg, Florida.
- Sears, R.** (2022, March 10). Teachers inspires dreams, believe in their students, and seek to ensure that their students achieve success. Invited speaker for Sulphur Springs Community School Career Day. Tampa, Florida.
- Sears, R. & Reese, G.** (2022, February 16). Combatting structural racism and promoting racial equity in St. Petersburg. Presentation at the St. Petersburg Conference of World Affairs
- Sears, R.** (2022, January 21). Liberation and Legacy. “No, we are not satisfied, and we will not be satisfied until justice rolls down like waters, and righteousness like a mighty stream”. Keynote address for Martin Luther King Jr. Brunch. University of South Florida, Tampa Florida.

- Sears, R.** (2021, November 6). Justice, Equity, Diversity, Inclusion (J. E. D. I) in Engineering: Practices and Possibilities. Keynote speaker for the Regional National Association of Engineering Student Councils (NAESC). Tampa, Florida.
- Sears, R.** (2021, November 2). *Fostering an Equitable Classroom Culture in Mathematics by Attending to the 5Rs (Rigor, Relevance, Responsiveness, Relationship, and Responsibility)*. Invited speaker and facilitator for Workshop for MAA special interest group on teacher education. (Virtual)
- Sears, R.** (2021, October 23). Dream, Believe, Achieve. Keynote speaker at the Intercultural Student Leadership Conference. University of South Florida.
- Sears, R., & Ad-Marbach, G.** (2021, September 22). *Leveraging Networks to Advance Justice, Equity, Diversity, and Inclusion (J.E.D.I) at the University of South Florida*. Invited Presentation at Transforming Institutions AAAS SEA Change Series. Virtual
- Sears, R.** (2021, May 27). Attending to Justice, Equity, Diversity, and Inclusion in Mathematics to Catalyze Change for Black, Indigenous People of Color in Tampa Bay Region. Invited Speaker at Georgia State University. (Virtual)
- Sears, R.** (2021, February, 19). JEDI in Mathematics Education. Invited Speaker for the University of Missouri mathematics education colloquium. (Virtually).
- Sears, R. & Smith, S.** (2020, June). Support for #ShutdownSTEM: Focusing on the Why? Invited speaker to present at the Opening Session of the 2020 National STEM Education Center Conference. ([https://serc.carleton.edu/StemEdCenters/conferences/2020\\_NSEC](https://serc.carleton.edu/StemEdCenters/conferences/2020_NSEC) )
- Sears, R., & Pinder, C.** (2020, May 26). *Attending to Equity in Mathematics During a Pandemic: Supporting Inclusion, Access, Fairness and Respect for All*. Invited Speaker for The Global Mathematics Project. <https://www.bigmarker.com/GlobalMathDept/Attending-to-Equity-in-Mathematics-During-a-Pandemic-Supporting-Inclusion-Access-Fairness-and-Respect-for-A>
- Sears, R., & Pinder, C.** (2019, November 21). *Mirror, Mirror on the Wall*. Presentation at the Great American Teach-in at Sulphur Springs K-8 Community School. Tampa, FL.
- Sears, R.** (2018, September 9). Importance of Literacy in Achieving my Academic Goals. Invited Speaker to present via Facebook Live to students in Acklins Central High School. Acklins, Bahamas.
- Sears, R.** (2018, June 25-27). Insights and reflections on efforts to launch transformative effort (\*invited panelist). Mathematics Teacher Educator Partnership, MTEP 2018, Denver, CO.
- Sears, R.** (2017, October 20). *Conceptualization of an interdisciplinary STEM curriculum: Core tenets, affordances and complexities*. Invited Speaker at The University of Miami. Coral Gables, FL.
- Sears, R., & Pinder, C.** (2017, April 17). Using MyLabsPlus Workspace to unpack students' mathematical errors and to develop reasoning skills. Invited speaker for Webinar for Pearson Higher Education. Retrieved from <http://www.brainshark.com/pearsonschool/vu?pi=zGUzP5yazMmpAz0&nodesktopflash=1>
- Sears, R.** (2016, November 18). *Diversity in STEM Education*. Invited speaker at Brooks DeBartolo Collegiate High School Great American Teach-In. Tampa, FL.
- Sears, R.** (2016, November 17). *In pursuit of excellence: Make every moment count*. Invited speaker at Young Middle Magnet School Great American Teach-In. Tampa, FL.

- Sears, R.** (2016, April 15). *Discovery math: Increasing student engagement through real world mathematical investigations*. Presentation at a Professional Development Training at Brooks DeBartolo Collegiate High School. Tampa, FL.
- Sears, R.** (2015, September 30). *Combating the challenges of having students engage in reasoning and proof activities*. Invited Speaker at the University of Tampa Lecture Series. Tampa FL.
- Sears, R.** (2015, November 20). *Top 10 reasons why teaching mathematics rocks!*. Invited speaker at the Great American Teach-In at Brooks-DeBartolo Collegiate High School. Tampa, FL.
- Sears, R.** (2014, February 18). *Modifying mathematics tasks to increase students engaging in reasoning and proof*. Invited speaker for Brevard County Secondary Programs. Viera, FL.
- Sears, R.** (2013, May 3). *Education for all: Using differentiated instruction and effective questioning strategies to facilitate learning*. Presentation via Skype at the Crooked Island High School Teachers' Professional Development Training. Crooked Island, Bahamas.

### **International Presentations**

- Sears, R.** (2023, August 22). Numeracy: It's a Team Game. Virtual Presentation for San Salvador Central High School Teachers' Professional Development Training. San Salvador, Bahamas. [Virtual]
- Sears, R.** (2022, July 20). District Math Leaders Roundtable: Adapting to the Post-Pandemic Classroom - July 20, 2022. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/9c05fac3-0e23-ed11-975a-0050568c42b6>
- Sears, R.** (2022, May 13). *District Math Leaders Roundtable: Providing Professional Development: Perspectives from Florida Math Leaders - May 13, 2022*. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/14fad1b7-b1ed-ec11-9758-0050568c42b6>
- Sears, R.** (2022, April 4). District Math Leaders Roundtable: Best Mathematical Practice - April 4, 2022. <https://app.knowledgehook.com/app/MathLeaders/Video/e48c5315-d1e8-ec11-9758-0050568c42b6>
- Sears, R.** (2022, March 10). The need for structured intervention to address disparities in secondary mathematics. Presentation to the senior education officials and the Minister of Education in The Bahamas. Virtual
- Sears, R.** (2022, March 1). *District Math Leaders Roundtable: Accessibility and Inclusivity as Key Elements in Learning- March 1, 2022*. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/fb9ce9a8-6ce6-ec11-9758-0050568c42b6>
- Sears, R.** (2022, January 24). *District Math Leaders Roundtable: Give Them a Buy-in: Tips and Advice from Math Leaders - January 24, 2022*. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/7565a433-61c6-ec11-9756-0050568c42b6>
- Sears, R.** (2021, December 14). District Math Leaders Roundtable: Math the Gatekeeper: Perspectives on Today's Challenges. Knowledgehook.



- <https://app.knowledgehook.com/app/MathLeaders/Video/78d98faf-609a-ec11-9756-0050568c42b6>
- Sears, R.** (2021, November 19). *District Math Leaders Roundtable: Growing Best Mathematical Practice*. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/301248a0-5284-ec11-9756-0050568c42b6>
- Sears, R.** (2021, May 6). Attending to Justice, equity, diversity, inclusion in mathematics to catalyze change in “failure factories. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/a466eee6-08b8-eb11-9754-0050568c42b6>
- Sears, R.** (2021, March 5) *Education Researchers Roundtable*. Knowledgehook.  
<https://app.knowledgehook.com/app/MathLeaders/Video/ec71286c-cb8c-eb11-9752-0050568c42b6>
- Castro-Minnehan, C., **Sears, R.**, & Lou, Y. (2021, April 10). *Virtual K–12 School Field Experiences: A Review of the Literature*. Presentation at the American Educational Research Association for Division K (virtually).
- Sears, R.** (2021, April 10). *Equity Topics in Mathematics Education*. Chair of Session for the American Educational Research Association for Division C (virtually).
- Sears, R.** (2021, April 11). *Confronting Systemic Inequities and Disparities Using Case-Based Instruction in Mathematics Teacher Preparation*. Chair of Session for the American Educational Research Association SIG-Research in mathematics Education (virtually)

### **National Presentations**

- Sears, R.**, Arthur, S., Potter, R., Castellanos, A., Jackson, B., & Schuler, K. (2024, November 7-9). *Preparing Teachers for Transformative Inclusive Mechatronics Leadership*. AAC&U Transforming STEM Higher Education Conference. Arlington, VA.
- Sears, R.** & Buchbinder, O. (2024, October 6). *Using FullProof (The Magical Math Tutor) to Develop Geometrical Reasoning and Proof Skills within a Practicum Course for Preservice Teachers*. 2024 Fall Southeastern Sectional Meeting of AMS. Savannah GA. [Cancelled due to Hurricane Milton and Hurricane Helene damages].
- Sears, R.** (2024, October 6). *Properties of polygons using an interactive desmos card sort activity*. 2024 Fall Southeastern Sectional Meeting of AMS. Savannah GA. [Cancelled due to Hurricane Milton and Hurricane Helene damages].
- Wells, C., & **Sears, R.** (2024, May 23). *Awareness and responsiveness to historical and current policies and practices that stifle racial healing and equitable outcome*. Presentation at WeRISE workshop at the University of California, Berkeley. Berkeley, CA.
- Sears, R.**, & Eastman, L., Touns, E., & Montoya, L. (2024, May 23). *A toolkit of strategies to help center inclusive and equitable practices within engineering courses*. WeRISE workshop at the University of California, Berkeley. Berkeley, CA.
- Sears, R.** (2024, May 24). *Accessibility, universal design, and human centered design*. Chair of Session at WeRISE Summit. Berkeley, CA.
- Marsteller, P., Haswell, M. & **Sears, R.** (2023, June 12-13) *Blueprint for Accelerating Change in Social Justice, Equity, Diversity and Inclusion in STEM Curricula*. Presentation at ASCN & NSEC Transforming Institution Conference. Minneapolis, MN.

[https://ascnhighered.org/ASCN/transforming\\_institutions/2023/program/workshops/263340.html](https://ascnhighered.org/ASCN/transforming_institutions/2023/program/workshops/263340.html)

- Castro-Minnehan, C., Sears, R. & Vernon Jackson, S. (2023, October, 25). Mathematics Teacher Educators' (MTEs') Learning While Co-teaching: A Model. Presentation at NCTM Research Conference. Washington DC.
- Sears, R. (2023, August 5). The Influence of the History of Mathematics on the Field of Mathematics Education. Panelist for the History of Mathematics. MAA Mathfest. Tampa FL.
- Sears, R. (2023, April 12-15). Climate and Context of STE(A)M Education. Presented as the Chair of the session for AERA Annual Meeting. Chicago, IL.
- Sears, R. (2023, April 12-15). Large-scale differences in student achievement and attitudes in mathematics. Chair of the session for AERA Annual Meeting. Chicago, IL
- Sears, R. (2023, March 9) . The Enlightenment Series: A university-wide professional development initiative to promote inclusive environment. AAC&U Conference on Diversity, Equity, and Student Access (Hybrid). Reno, NV.
- Sears, R. (2022, August 25). Roundtable discussion facilitator for "Access and equity for diverse learners: Closing achievement and opportunity gaps in mathematics". National Council of Supervisors of Mathematics 2022 Pre-Conference event. Virtual.
- St. Goar, J., Mcleod, K., Pyzdrowski, L., Ion, M., **Sears, R.**, Boyce, S. & Lai, Y. (2022, February 24). *GeT Lesson Study: Engaging Prospective Teachers in Defining Mutuality*. Presentation at Research in Undergraduate Mathematics Education (RUME) Conference Working Group: Teaching Geometry for Secondary Teachers. Boston, MA.
- Sears, R.**, Renbarger, R., Beach, A. L., Rosenberg, M., Cruz Bohorquez, J. M. (2022, January 21). Transforming Higher Education: Using Institutional Change and Liberation Theories to Systemically Advance Racial Equity. **\*Featured Project Kaleidoscope presentation.** Presentation at the American Association of Colleges and Universities (AAC&U) Annual Meeting. Virtual Presentation.
- Sears, R.** (2021, June 9-11). The Enlightenment Series: Catalyzing Change via Courageous Conversations to Address Racism and Anti-Blackness and Promote Inclusive Excellence at the University of South Florida. Transforming Institution Conference. Presented at ASCN and Network of STEM Education Centers joint annual meeting (Virtual).
- Marsteller, P., Cho, P., & **Sears, R.** (April 29, 2021). Recruitment Planning. Presentation at ASCN informal group discussion for recruiting diverse faculty in STEM.  
[https://ascnhighered.org/ASCN/wg5\\_discussion.html](https://ascnhighered.org/ASCN/wg5_discussion.html)
- Manilay, J., O., Marsteller, P., Cho, P., & **Sears, R.** (March, 25, 2021). Hiring plans: Cluster Hires and Diversity Statement. Presentation at ASCN informal group discussion for recruiting diverse faculty in STEM. [https://ascnhighered.org/ASCN/wg5\\_discussion.html](https://ascnhighered.org/ASCN/wg5_discussion.html)
- Marsteller, P., Cho, P., & **Sears, R.** (February, 25, 2021). *Overview : Why now?* Presentation at ASCN informal group discussion for recruiting diverse faculty in STEM.  
[https://ascnhighered.org/ASCN/wg5\\_discussion.html](https://ascnhighered.org/ASCN/wg5_discussion.html)
- Sears, R.**, Stone, J., Junor Clarke, P., Castro-Minnehan, C., Oloff-Lewis, J., & Grady, M. (2021, February 19 ). Using Co-Planning and Co-Teaching During Secondary Mathematics Clinical Experiences to Facilitate Equitable Opportunities. Presented at the annual Association of Mathematics Teacher Educators (AMTE) meeting (virtually).

- Sears, R.** & Castro- Minnehan, C. (2020, October, 23) . *Co-Planning and Co-Teaching in Secondary Mathematics Clinical Experiences During COVID-19*. Presentation at the National Conference on Co-Teaching. Virtual .
- Castro-Minnehan, C., & **Sears, R.** ( 2020, October, 23). *Preservice teacher perspectives of their collaborating teachers' role in co-teaching during early field experiences*. Presentation at the National Conference on Co-Teaching. Virtual .
- Sears, R.**, Potter, R., Meisels, G. (2020). "STEER"ing Our Way To Inclusive Excellence! NSF STEM Diversity and Inclusion Video Exhibition (Dive) Challenge 2020 - <https://www.youtube.com/watch?v=yCi-wSkGkQQ>
- Sears, R.**, Potter, R., Meisels, G., & Schuler, K. (2020). Using Professional Development to Support Equitable Learning Opportunities in STEM Lab Settings. <https://www.youtube.com/watch?v=udYsXLg2j0w&t=17s>
- Strutchens, M.E ., **Sears, R.**, Zelkowski, J., Mangram, C., & Conway, B. (2020, February 7). *Collaborating to Improve Clinical Experiences for Secondary Mathematics Teacher Candidates*. Presentation at the Association of Mathematics Teacher Educators Conference. Phoenix, AZ.
- Sears, R.**, Dupree, L., & Castro-Minnehan.( 2020, February 6). Secondary mathematics teacher candidates' perspectives about strategies that can support equitable learning opportunities. Presentation at the Association of Mathematics Teacher Educators Conference. Phoenix, AZ.
- Sears, R.**, Pinder, C., & Castro-Minnehan, C. (2020, April 1-4). Two heads are better than one: Using co-teaching to support equity in secondary mathematics. Presentation at the National Council of Teachers of Mathematics annual meeting (centennial). Chicago, IL. [Canceled due to COVID-19]
- Sears, R.**, Potter, R., Meisels, G., & Schuler, K. (2019, November 8). *Using Professional Development to Support STEM Laboratory Teaching Assistants*. Presentation at AAC&U Transforming STEM Higher Education. Chicago, IL.
- Sears, R.**, & Potter, R. (2019, May 30-June 1). *Supporting STEM Lab Teaching Assistants Enactment of an Effective Operational Curriculum via Year-Long Professional Development Initiative*. Poster at Network of STEM Education Center. Omaha, NE.
- Sears, R.**, Potter, R., Meisels, G. (2019, May 30-June 1). *Utilizing Effective Features of Professional Development to Support STEM Lab Teaching Assistants to Exhibit Good Teaching Practices*. Network of STEM Education Center. Omaha, NE.
- Strutchens, M., **Sears, R.**, & Zelkowski, J. (2019, May 2). Clinical experience research action cluster. Presentation for the MTE-Partnership Webinar Series via <http://mtep.info/zoom>.
- Sears, R.** (2019, May 6-8) Participate in The American Association for the Advancement of Science (AAAS) working group meeting focused on STEM teacher retention in high-need schools. Washington DC.
- Sears, R.** (2019, April 7-9). *Improving Research on Mathematics Teachers and Teaching: Discussions of Measures and Methods*. Session Chair for American Educational Research Association (AERA) - SIG Research in Mathematics Education. Toronto, Canada.
- Sears, R.**, & Pinder, C. (2019, April 4). *Attending to Equity in Mathematics: Policies, Practices and Belief Systems*. Presented at the National Council of Teachers of Mathematics (NCTM) Annual Meeting. San Diego, California.

- Sears, R.**, Oloff-Lewis, J., Riggs, L., Brosnan, P., Grady, M., & Stone, J. (2019, February 7-9). *Attending to equity in clinical experiences via co-planning and co-teaching strategies*. Presentation at the annual meeting for the Association of Mathematics Teacher Educators. Orlando, FL.
- Strutchens, M., & **Sears, R.** (2019, January 11). Attaining excellence in secondary mathematics clinical experiences with a lens on equity. Presentation at the Joint Mathematics Meetings for MAA and AMS. Baltimore, MD.
- Sears, R.** & Junor -Clarke, P. (2018, November 7-10). Attending to equity in secondary mathematics using co-planning and co-teaching strategies. Presented at *AAC&U 2018 Transforming STEM Education Conference*. Atlanta, GA.
- Sears, R.** & Hopf, F. (2018, November 7-10). Strategies to Motivate Students and Facilitate Learning in Online College Algebra. Presented at *AAC&U 2018 Transforming STEM Education Conference*. Atlanta, GA.
- Castro, C., Pinder, C., & **Sears, R.** (2018, October 10-13). *Co-planning and Co-teaching Strategies in Secondary Mathematics Classrooms*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Daytona Beach, Florida.
- Pinder, C., & **Sears, R.** (2018, October 10-13). Embracing Students' Mathematical Identities in the Teaching and Learning of Mathematics. Presentation at the *Florida Council of Teachers of Mathematics Annual Meeting*. Daytona Beach, Florida.
- Sears, R.**, & Kamlue, N. (2018, October 10-13). Using Problem Based Learning to Promote Student Success in Secondary Mathematics. Presentation at the *Florida Council of Teachers of Mathematics Annual Meeting*. Daytona Beach, Florida.
- Sears, R.** (2018, June 25-27). Insights and reflections on efforts to launch transformative effort (\*invited panelist). *Mathematics Teacher Educator Partnership*, MTEP 2018, Denver, CO.
- Sears, R.**, Potter, R., & Meisels, G. (2018, June 6-8). Teamwork makes the dream work: Systemic transformation of education through evidence-based reforms. Presentation at the *SMTI/NSEC meeting*. Columbus Ohio.
- Krajcevski, M., & **Sears, R.** (2018, June 13-15). Common Visual Representations as a Source for Misconceptions in Geometry Connection Course. Presentation at the *Geometry for Secondary Teacher Conference*. University of Michigan, Ann Arbor Michigan.  
\*Ruthmae Sears also received a \$250 scholarship award.
- Potter, R. & **Sears, R.** (2018, August 14-18). STEERING" the Course to Promote Effective Teaching Practices within STEM Laboratories. Presented at the University of South Florida, Tampa Florida.
- Potter, R. & **Sears, R.** (2018, October 19). STEM Lab TA Follow Up Workshop. Presented at the University of South Florida, Tampa Florida.
- Sears, R., & Meisels, G. (2018, February 1). Top 10 things to consider when promoting student success in STEM fields. Presentation at the *Sunshine State Conference*. St. Petersburg, FL.
- Strutchens, M., & **Sears, R.** (2018, January 11). Collaborative Research: Attaining Excellence in Secondary Mathematics Clinical Experiences with a Lens on Equity. Presented at the Joint Mathematics Meetings for MAA and AMS. San Diego, CA.
- Sears, R.**, & Pinder, C. (2017, November 9-12). *Using Workspace to Unpack Students' Math Errors and Promote Reasoning*. Presentation at the AMATYC Annual Conference. San Diego, CA.

- Dupree, L., & Sears, R. (2017, April 5-8). *The hidden treasures in student misconceptions*. Presentation at the National Council of Teachers of Mathematics (NCTM) Annual Meeting. San Antonio, TX.
- Hopf, F., Sears, R., Torres, A., & Williams, C. (2017, March, 9-12). *Does mastery learning for online college algebra students enhance students' performance*. Presentation at the 29th International Conference on Technology in Collegiate Mathematics. Chicago, IL.
- Oloff, J., Sears, R., Junor Clarke, P., Brosnan, P., Riggs, L., Grady, M., Biagetti, S., Stone, J., Gainsburg, J., Spencer, C., Andreason, J., Cayton, C., & Cheng, I. (2017, February 9-11). *Measuring co-teaching during clinical experiences*. Presentation at the Association of Mathematics Teacher Education (AMTE) Annual Meeting. Orlando, FL.
- Sears, R., & Dupree, L. (2017, February 9-11). *Using students' misconceptions as a source for rich mathematical discourse*. Presentation at the Association of Mathematics Teacher Education (AMTE) Annual Meeting. Orlando, FL.
- Sears, R., Hopf, F., & Butler, K. (2017, January 4-7). *Developing intermediate algebra students' mathematical communications via Workspace assignments in MyLabsPlus*. Presentation at the Joint Mathematics Meetings for American Mathematical Society (AMS) and Mathematical Association of America (MAA). Atlanta, GA.
- Sears, R., Hopf, F., Torres-Ayala, A., & Williams, C. (2017, March 9-12). *Using plan-do-study-act cycles to transform introductory mathematics courses*. Presentation at the 28th International Conference on Technology in Collegiate Mathematics. Chicago, IL.
- Torres-Ayala, A., Williams, C., Sears, R., & Hopf, F. (2017, March 9-12). *Let's talk: The benefits of interdisciplinary conversations in transforming math courses*. Presentation at the 29th International Conference on Technology in Collegiate Mathematics. Chicago, IL.
- Wieman, R., Bieda, K., Buchbinder, O., Cook, A., Males, L., McAneny, T., & Sears, R. (2017, February 9-11). *Technique and purpose: Separating and integrating doing and thinking in representations of practice*. Presentation at the Association of Mathematics Teacher Education (AMTE) Annual Meeting. Orlando, FL.
- Sears, R., & Burgos, F. (2016, June 26-28). *Developing middle school preservice teachers' knowledge of number and operations*. Presentation at the APLU- Mathematics Teacher Education Partnership Annual Meeting. Atlanta, GA.
- Sears, R., & Burgos, F. (2016, June 8-9). *A collaborative effort to develop middle school preservice teachers mathematical content knowledge*. Presentation at the APLU- Science and Mathematics Teacher Imperative Annual Meeting. San Antonio, TX.
- Sears, R., & Burgos, F. (2016, January). *Collaborative effort to address the Common Core State Standards for Mathematics in a middle school mathematics teacher certification program*. Presentation at the American Mathematical Society (AMS) and the Mathematical Association of America (MAA) Joint Mathematics Meeting. Seattle, WA.
- Sears, R., Grady, M., Cayton, C., Brosnan, P., Sinicrope, R., Preston, R., & Strutchens, M. (October 27-29, 2016). *Transforming clinical experiences for secondary mathematics with co-teaching strategies*. Presentation at the National Conference on Co-Teaching and Collaboration. Bloomington, MN.
- Sears, R., Hopf, F., & Torres-Ayala, A. (2016, March 10-13). *Developing preservice teachers mathematical content knowledge with MyMathTest*. Presentation at the 28th International Conference on Technology in Collegiate Mathematics. Atlanta, GA.
- Sears, R., Oloff-Lewis, J., Biagetti, S., Brosnan, P., Stone, J., Grady, M., Cayton, C., Andreason, J., Gainsburg, J., Spencer, C., Riggs, L., Junor-Clarke, P., & Cheng, I. (2016, October 27-

- 29). *Measuring co-teaching at various stages of a plan-do-study-act cycle*. Presentation at the National Conference on Co-Teaching and Collaboration. Bloomington, MN.
- Torres-Ayala, A., **Sears, R.**, & Hopf, F. (2016, March 10-13). *Multiple testing opportunities in college algebra: Does it promote student success?* Presentation at the 28th International Conference on Technology in Collegiate Mathematics. Atlanta, GA.
- Sears, R.** (2015, June 3-4). *Ensuring preservice secondary teachers are prepared for state certification exams*. Presentation at the APLU Science and Mathematics Teacher Imperative (SMTI) National Conference. New Orleans, LA.
- Sears, R.**, Burgos, F., & Wooten, R. (2015, January 12). *Collaborative effort to address content and practice standards in a middle school mathematics teacher preparation program*. Presentation at the American Mathematical Society (AMS) and the Mathematical Association of America (MAA) Joint Mathematics Meeting. San Antonio, TX.
- Sears, R.**, Hopf, F., & Torres-Ayala, A. (2015, March 12-15). *College Algebra students' perspective of the SMART Lab learning environment*. Presentation at the 27th International Conference on Technology in Collegiate Mathematics. Las Vegas, NV.
- Chavez, O., & **Sears, R.** (2015, January 12). *Informal and formal proofs in geometry: Evidence from a large-scale curriculum comparison study*. Presentation at the American Mathematical Society (AMS) and the Mathematical Association of America (MAA) Joint Mathematics Meeting. San Antonio, TX.
- Hopf, F., & **Sears, R.** (2015, March 12-15). *Enhancing college algebra with team-based activities*. Presentation at the 27th International Conference on Technology in Collegiate Mathematics. Las Vegas, NV.
- Hopf, F., **Sears, R.**, Torres, A. & Maher, M. (2014, March 20-23). *"Help me solve this" does it? - Implications of an online tool on student learning*. Presentation at the 26th International Conference on Technology in Collegiate Mathematics. San Antonio, TX.
- Kersaint, G., **Sears, R.**, Vomvoridi, E., & Krajcevski, M. (2014, February 6-8). *Partnership to design a middle school mathematics teacher preparation program from the ground up*. Presentation at the 18th American Association of Mathematics Teacher Educators (AMTE) Annual Meeting. Irvine, CA.
- Kersaint, G. & **Sears, R.** (2014, June 7). *The Transformation of Middle School STEM Teacher Preparation Program: A Collaborative Design*. Presentation at the APLU - Mathematics Teacher Education Partnership. Milwaukee WI.
- Kersaint, G., & **Sears, R.** (2013, June 7-9). *A collaborative effort to develop a middle school mathematics teacher preparation program*. Presentation at the APLU- Mathematics Teacher Education Partnership Conference. St. Louis, MO.
- Sears, R.** (2013, June 13-15). *Increasing high school students' opportunities to engage in proofs: Addressing shortcomings of textbooks*. Presentation at the R. L. Moore Legacy and Inquiry Based Learning conference. Austin, TX. Retrieved from <http://www.youtube.com/watch?v=XUAiKfY8WAw>
- Sears, R.**, & Kersaint, G. (2013, October 4-6). *Cultivating relationships between mathematicians and mathematics teacher educators*. Invited Speakers for the AMS Special Sessions Meeting. Louisville, KY.
- Sears, R.**, & Tran, D. (2012, April 25-28). *Move to improve: Using GSP animations in the geometry classroom*. Presentation at the National Council of Teachers of Mathematics (NCTM) National Conference and Exposition. Philadelphia, PA.

- Sears, R.** (2011, October 20-23). *An examination of preservice mathematics teachers' proof schemes*. Presentation at the North American Chapter of the International Group for the Psychology of Mathematics Education. Reno, NV.
- Grouws, D., Chavez, O., Tarr, J., Reys, R., McNaught, M., Ross, D., **Sears, R.**, & Papick, I. (2010, April 19-21). *Design recommendation for improving research on curricular effectiveness*. Presentation at the Research Pre-session for the National Council of Teachers of Mathematics (NCTM). San Diego, CA.
- Grouws, D., Tarr, J., Chavez, O., Reys, R., McNaught, M., Ross, D., **Sears, R.**, & Taylan, R. D. (2010, April 29-May 5). Researching curricular effectiveness: Insights from a 3-year longitudinal study of the impact of secondary-school mathematics curricula. Presentation at the American Educational Research Association (AERA) Annual Meeting. Denver, CO.
- Grouws, D., Tarr, J., **Sears, R.**, & Ross, D. (2010, January 7-11). *Mathematics teachers' use of instructional time and relationships to textbook organization and class period format*. [Poster]. Presentation at the Hawaii International Conference for Education, Honolulu, HI.
- McNaught, M., Tarr, J., **Sears, R.** (2010, April 29-May 5). *Conceptualizing and measuring "fidelity of implementation" of secondary mathematics textbooks: Results of a 3-year study of curriculum implementation*. Presentation at the Annual Conference of the American Educational Research Association (AERA) Annual Meeting. Denver, CO.

### **State and Regional Presentation**

- Buchbinder, O., **Sears, R.**, Fay, V. (2024, October 24-25). *Re-envisioning the teaching and learning of geometry with technology*. Presentation at Association of Teachers of Mathematics New England (ATMNE) Conference. Nashua, New Hampshire.
- Sears, R.**, Bakytbek, A., & Arthur, S. (2024, December 6). Mechatronics Integrated into STEM Teaching for Transformative Inclusive Communities: A Noyce Master Teaching Fellowship Program. Presentation at the MAA Suncoast Meeting. St. Leo, Florida.
- Cummings, K., **Sears, R.**, & Vernon-Jackson, S. (2024, December 6). Uncovering the mystery of who is in your mathematics classroom. Presentation at the MAA Suncoast Meeting. St. Leo, Florida.
- Sears, R.**, Cummings, K., & Vernon-Jackson, S. (2024, December 6). Promoting trauma informed practices in Intermediate Algebra. Presentation at the MAA Suncoast Meeting. St. Leo, Florida.
- Sears, R.** (2024, November 21). *Unleash the power of education: The journey of a mathematics teacher educator*. Presentation at the Great American Teach-In at Sulphur Springs K-8. Tampa, FL.
- Sears, R.**, & Green, A. (2023, December 1). *What are Students' Attitudes and Perceptions about Mathematics when enrolled in Intermediate Algebra?*. Presentation at 44<sup>th</sup> Suncoast Regional Meeting of the Florida Section of the MAA. Lakeland, FL.
- Bakytbek, A. & **Sears, R.** (2023, December 1). Using GeoGebra to Enhance Geometrical Instruction: The case of Heron's Formula?. Presentation at 44<sup>th</sup> Suncoast Regional Meeting of the Florida Section of the MAA. Lakeland, FL.
- Song, C. & **Sears, R.** (2023, December 1). Exploring Circles using Geogebra. Presentation at 44<sup>th</sup> Suncoast Regional Meeting of the Florida Section of the MAA. Lakeland, FL.

- Sears, R., & Jayawardana, D.** (2023, November, 16). Driven by a vision. Presentation at the Great American Teach-In - Sulphur Springs PK-8 Community Partnership School. Tampa, FL.
- Sears, R., Buchbinder, O., & Ballin, C.** (2023, June 19-20). Developing Reasoning and Proof Skills Using FullProof Web-based Application. Presentation at the 2023 Florida Council of Teachers of Mathematics (FCTM) Annual Conference. Orlando, FL
- Daniel, C., & Sears, R. (2023, July 16-19). The modernization of digital information technology. Florida Association for Career and Technical Education (FACTE). Orlando, FL
- Castro-Minnehan, C., **Sears, R.,** Vernon-Jackson, S. (2023, June 19-20). *Python Coding and the Secondary Mathematics Classroom: The Replit Tool*. Presentation at the 2023 Florida Council of Teachers of Mathematics Annual Conference. Orlando, FL.
- Sears, R., Castro-Minnehan, C., Vernon-Jackson, S. (2023, June 19-20). *Ten (10) Strategies to Promote Equity and Access in Secondary Mathematics*. Presentation at the 2023 Florida Council of Teachers of Mathematics Annual Conference. Orlando, FL.
- Sears, R.** (2023, January 29). Introduction for Gloria Browne-Marshall – a phenomenal scholar and civil rights advocate. Institute on Black Life Conference. Sarasota, FL.
- Davis-Cotton, D. & Sears, R. (2023, January 8-11). Creating equitable and inclusive environments. MLK Summit. Sarasota, FL.
- Sears, R., & Roberts, R.** (2022, December 2). *Examining Teacher Candidates Content Knowledge in a Middle Grades Mathematics Methods Course*. Presentation at the 44th Florida Suncoast Region meeting of the Mathematical Association of America. Lakeland, FL
- Sears, R., & Castro-Minnehan, C.** (2022, December 2). *Teacher Candidates' Perspectives on Using Technology in Mathematics, and Factors that Can Impact their Decision to Use It*. Presentation at the 44th Florida Suncoast Region meeting of the Mathematical Association of America. Lakeland, FL
- Castro-Minnehan, C., Kudaisi, Q. & **Sears, R.** (September 29 2022). *Teacher Candidates' Perspectives on Using Technology in Mathematics, and Factors that Can Impact their Decision to Use It*. Presentation at FDLA/FAMTE 2022 Virtual Conference. Virtual
- Sears, R.** (2022, August 26). *STEERing a Path to STEM Student Success at USF*. Presentation at the STEER Luncheon at USF Alumni Hall.  
<https://www.youtube.com/watch?v=F9MeVjb3ZKM>
- Sears, R.,** Castro-Minnehan, C., Syblis, S., Navis, K. (2022, June 17). *Challenges and Opportunities of Equity in the 6-12 Setting*. Presentation at the Florida Council of Teachers of Mathematics annual meeting on behalf of the Access and Equity Committee.
- Davis-Cotton, D. & Sears, R. (2022, January 28). *Teach: The first level in the TRUTH Framework. Presentation at the Inclusive and Equitable Pedagogy program*. University of South Florida, Tampa, Florida.
- Sears, R.** (2021, December 9). *A Resolution accepting the City of St. Petersburg Structural Racism Study and findings and providing an effective date*. [ADD]. Presentation at the City Council of St. Petersburg Florida. St. Petersburg, Florida.  
[https://stpete.granicus.com/MediaPlayer.php?view\\_id=14&clip\\_id=5460](https://stpete.granicus.com/MediaPlayer.php?view_id=14&clip_id=5460)
- Sears, R.,** Gallardo, G., Reese, G. D., Dutton, T., Reichgelt, J., McHale, J. P., Akiwumi, F., Edmond, J., Bradham-Cousar, M., Blackshear, J., & Thompson-Dorsey, D. (2021, October 27). *Examination of historical and modern-day impact of structural racism on*



- the lives of Black people in the City of St. Petersburg, Florida. Presentation to Elected Officials and Leaders within St. Petersburg Florida.* Manhattan Casino Event Hall -St. Petersburg, Florida. <https://www.youtube.com/watch?v=AbeZhm3a4dc>
- Sears, R.**, Gallardo, G., Reese, G. D., Dutton, T., Reichgelt, J., McHale, J. P., Akiwumi, F., Edmond, J., Bradham-Cousar, M., Blackshear, J., & Thompson-Dorsey, D. (2021, October 14). *Community Conversation: Supporting Racial Equity in St. Petersburg Florida.* Virtual. <https://www.youtube.com/watch?v=NnvIzT4cRig>
- Sears, R.**, Chavez, O., & Tarr, J. (2021, October 13). *COSMIC Study. Invited speaker for Ohio University course. "Mathematics Curriculum in Kindergarten–Grade 14"*. Facilitated virtually.
- Sears, R.**, & Kudaisi, Q. (2021, August 21 & August 28). *Anchin Center Professional development : Attending to J.E.D.I in mathematics.* Facilitated a workshop for teachers. Tampa, FL. (POSTPONED)
- Sears, R.** (2021, June 9). *Catalyzing Change in mathematics by attending to justice, equity, diversity, and inclusion (J.E.D.I).* Presentation at the Florida Council of Teachers of Mathematics (FCTM).
- Sears, R.** (2021, May 13). *Presentation for the Quality of Life Study.* Presentation at City Council of St. Petersburg on Structural Racism Study. St. Petersburg, Florida. [https://stpete.granicus.com/MediaPlayer.php?view\\_id=14&clip\\_id=5247&meta\\_id=105480](https://stpete.granicus.com/MediaPlayer.php?view_id=14&clip_id=5247&meta_id=105480)
- Salmon, A., Davis-Cotton, D, & **Sears, R.** (May 4, 2021). The DNA of Microaggression in the workforce. Presented virtually at the Special Enlightenment series for the University of South Florida.
- Sears, R.** (2021, April 22). *Huddle for Change: Racial inequities and physical health.* Moderator for Huddle for Change, which is a partnership between the Host Committee, National Football League (NFL) Inspire Change, Community Tampa Bay, and the University of South Florida.
- Sears, R.**, & Obied, S. (2021, April 7). *I'm Speaking Series: Conversation that Teach.* Presented at the I'm Speaking Series that is facilitated by Women and Leadership Initiative – The Bishop Center for Ethical Leadership. (Virtually). [https://www.youtube.com/watch?v=K\\_o88lLoO1E&t=1946s](https://www.youtube.com/watch?v=K_o88lLoO1E&t=1946s)
- Hodge- Freeman, E., Jackson, A., Rodriguez, C., **Sears, R.** & Trotz, M. (2021, February 3). *Closing Remarks. Where do we go from here?* Presentation at the University of South Florida Institute on Black Life Conference (Virtually)
- Sears, R.** (2021, January 20). *Huddle for Change.* Facilitator for Huddle for Change, which is a partnership between the Host Committee, National Football League (NFL) Inspire Change, Community Tampa Bay, and the University of South Florida.
- Kamalue, N., Pinder, C. & **Sears, R.** (2020, November 11-14) Using Problem-Based Learning in Middle School Mathematics. Presented at NCTM Regional Meeting (Virtual) .
- Sears, R.**, Pinder, C., & Castro-Minnehhan (2020, November 11-14). *It Takes Two: Using Co-Planning and Co-Teaching to Support Equitable Learning Opportunities .* Presented at NCTM Regional Meeting (Virtual) .
- Sears, R.** (2020, September 30-October 2, 2020) *Unpacking the complexities of facilitating secondary mathematics clinical experiences in an online setting: Policies, Practices, and Challenges.* Keynote speaker for the Florida Distance Learning Association, and Florida Association of Mathematics Teacher Educators.

- Sears, R.** (2019, September 14). *Instructional Pairs Training for Clinical Experiences in Secondary Mathematics - with Attention to Equity*. Professional Development at USF. Tampa Florida.
- Sears, R.** & Beneteau, C. (2019, February 15). *Interactive classroom engagement strategies*. Presentation at USF STEM Education Workshop. Tampa, FL.
- Sears, R.,** Castro-Minnehan, C. (2019, January 30-February 1). *Promoting Equitable Learning Opportunities in Mathematics via Co-planning and Co-teaching Strategies*. Presentation at the joint meeting of the Florida Distance Learning Association (FDLA) and Florida Association of Mathematics Teacher Educators (FAMTE). Altamonte Springs, FL.
- Castro, C., Pinder, C., & **Sears, R.** (2018, October 10-13). *Co-planning and Co-teaching Strategies in Secondary Mathematics Classrooms*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Daytona Beach, Florida.
- Pinder, C., & **Sears, R.** (2018, October 10-13). *Embracing Students' Mathematical Identities in the Teaching and Learning of Mathematics*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Daytona Beach, Florida.
- Sears, R.,** & Kamlue, N. (2018, October 10-13). *Using Problem Based Learning to Promote Student Success in Secondary Mathematics*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Daytona Beach, Florida.
- Potter, R. & **Sears, R.** (2018, August 14-18). *STEERING" the Course to Promote Effective Teaching Practices within STEM Laboratories*. University of South Florida, Tampa Florida.
- Sears, R.,** Dupree, L., & Pinder, C. (2017, October 18-20) *Culturally responsive teaching: Cultivating learning for each and every student*. Presentation at the National Council of Teachers of Mathematics (NCTM) Regional Meeting. Orlando, FL.
- Sears, R.,** & Pinder, C. (2017, September 13-15). *Using MyLabsPlus Workspace to Unpack Students' Mathematical Thinking*. Presentation at the Florida Association of Mathematics Teacher Educators (FAMTE) and Florida Distance Learning Association. Altamonte Springs, FL.
- Sears, R.,** Butler, K., Pinder, C., Hopf, F., Torres, A., & Williams, C. (2017, February 24). *Using workspace assignments in MyLabsPlus to develop intermediate algebra students' mathematical communications*. Invited Presentation at the Pearson Sunshine Symposium. Orlando, FL.
- Cayton, C., Grady, M., Brosnan, P., & **Sears, R.** (2016, July 22). *Co-teaching and co-planning a paradigm shift*. Presentation at a Professional Development Training for Helios Middle School Program at the University of South Florida. Tampa, FL.
- Sears, R.** (2016, October 13). *Diversity in STEM Education*. Presentation at the University of South Florida STEM Education Summit. Tampa, FL.
- Sears, R.** (2016, September 25-27). *Developing preservice teachers' mathematical content knowledge with MyMathTest*. Presentation at the Florida Association of Mathematics Teacher Educators (FAMTE) / Florida Distance Learning Association (FDLA) Annual Meeting. Altamonte Springs, FL.
- Sears, R.** (2016, January, 20). *Using National Aeronautics and Space Administration (NASA) tasks to promote inquiry and interdisciplinary initiatives*. Invited Speaker at the University of South Florida National Science Teachers Association. Tampa, FL.

- Sears, R., Bassila, A., & Butler, K.** (2016, July 26). *Using NASA resources to promote inquiry based learning*. Presentation at the Florida Association for Career and Teacher Education (FACTE) Annual Meeting. Buena Vista, FL.
- Sears, R., & Butler, K.** (2016, October 20-22). *Transforming secondary education with improvement science plan-do-study-act (PDSA) cycles*. Presentation at the Florida Council of Teachers of Mathematics (FCTM) Annual Meeting. Orlando, FL.
- Morales, L., & Sears, R.** (2015, Oct 15-17). *Soaring with NASA space math: Taking the mathematics beyond lower earth orbit*. Presentation at the Florida Council of Teaching Mathematics (FCTM) Annual Meeting. Orlando, FL.
- Sears, R.** (2015, August 1). *Cultivating STEM education with NASA educational resources: Climate change*. Retrieved from <https://www.youtube.com/watch?v=X7tT853Ru8E>
- Sears, R.** (2015, August 1). *Cultivating STEM education with NASA educational resources: Rockets and nix moon*. Retrieved from <https://www.youtube.com/watch?v=MZW2WNv9XAk>
- Sears, R., Vomvori- Ivanovic, E., & Muller- Karger, F.** (2015, August 17). *Using NASA educational resources to promote STEM education*. Presentation at the University of South Florida NASA STEM Education Professional Development Training. Tampa, FL.
- Butler, K. & Sears, R.** (2014, October 23-24). *The play phenomenon: Transforming mathematical classroom with toys*. Presentation at the Florida Council of Teachers of Mathematics (FCTM) Annual Meeting. Palm Harbor, FL.
- Hopf, F., & Sears, R.** (2014, March 6). *Flipping the classroom in upper level math with EWA*. Webinar for Cengage Publishing. Retrieved from [http://www.cengage.com/tlconnect/client/discipline/archived\\_online\\_seminars.do?disciplineId=54](http://www.cengage.com/tlconnect/client/discipline/archived_online_seminars.do?disciplineId=54)
- Sears, R., Karadeniz, I., Butler, K.** (2014, October 24) *Assessing the Standards for Mathematical Practice in high school geometry*. Presentation at the Florida Council of Teachers of Mathematics (FCTM). Palm Harbor, FL.
- Smith, S., Sears, R. & Karadeniz, I.** (2014, October 23). *Let's play: A showcase of online games to promote mathematical learning*. Presentation at the Florida Council of Teachers of Mathematics (FCTM). Palm Harbor, FL.
- Butler, K., & Sears, R.** (2013, October 16-18). *Identifying and remediating mathematical and computer anxiety when using MyMathlab in an algebra course*. Presentation at the Florida Council of Teachers of Mathematics (FCTM) Annual Meeting. Orlando, FL.
- Hopf, F. & Sears R.** (2013, October 24). *Flipping the classroom with EWA*. Webinar for Cengage Learning. Retrieved from <https://cengage.webex.com/cengage/ldr.php?AT=pb&SP=MC&rID=71874817&rKey=b3cd17d9940d6ec1>
- Hopf, F., & Sears, R.** (2013, November 19). *USF SMART lab: An example of flipping the classroom using good practices*. Presentation at the University of South Florida Academy for Teaching and Learning Excellence (ATLE) Workshop. Tampa, FL.
- Hopf, F., Sears, R., Torres, A. & Maher, M.** (2013, October 16-18). *SMART lab: Providing opportunities for students to achieve success in mathematics*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Orlando, FL.
- Karadeniz, I., & Sears, R** (2013, October 16-18). *Transform the teaching and learning of science, technology and mathematics (STEM) using Google Sketch Up*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Orlando, FL.

- Sears, R. (2013, October 16-18). *Increasing students' opportunities to engage in reasoning and proof in high school mathematics classroom*. Presentation at the Florida Council of Teachers of Mathematics Annual Meeting. Orlando, FL.
- Sears, R. (2012, November 16). *Combating the challenges of enacting proof tasks*. Presentation at the University of South Florida Mathematics Education Colloquium. Tampa, FL.
- Sears, R. (2012, October 18-20). *Proofs in geometry textbooks: Task features and levels of cognitive demand*. Presentation at the Florida Council of Teachers of Mathematics (FCTM) Annual Meeting. Orlando, FL.
- Sears, R. (2011, October 26-28). *What does it take to make a convincing proof argument?* Presentation at the National Council of Teachers of Mathematics (NCTM) Regional Conference and Exposition. St. Louis, MO.
- Tran, D., Spain, V., & Sears, R. (2011, December 2-3). *Mathematics manipulatives: Learning through play*. Presentation at the Missouri Council of Teachers of Mathematics (MCTM) Annual Meeting. Columbia, MO.
- Sears, R., Tran, D., Thomas, A., & Taylan, R. D. (2010, December 3-4). *From chalk-talk to tech-talk: Let's transform*. Presentation at the Missouri Council of Teachers of Mathematics (MCTM) Annual Meeting. Columbia, MO.
- Sears, R., Tarr, J., & Ross, D. (2010, February 5). *But what about teacher beliefs? Making sense of self-report data by mathematics teachers of two curriculum types*. Presentation at the University of Missouri Mathematics-Science Education Research Colloquium. Columbia, MO.
- Chavez, O., Sears, R., & Cumming, L. (2009, December 4-5). *Making abstract mathematics concrete with Geogebra*. Presentation at the Missouri Council of Teachers of Mathematics (MCTM) Annual Meeting. Columbia, MO.
- Sears, R., Chavez, O., & Nevels, N (2009, December 4-5). *Using visual proofs for instruction an alternative assessment*. Presentation at the Missouri Council of Teachers of Mathematics (MCTM) Annual Meeting. Columbia, MO.

### Television, Movie, and Social-Media Live Presentations

- Emmanuel, D. (2024, October 9). *Bahamians at the University of South Florida evacuate ahead of monster storm Milton*. Features: Dr. Ruthmae Sears, Kyla Neely, and Michael Munroe. <https://www.facebook.com/share/p/dBepY6i38FHB5QNZ/>
- Sears, R. (2024, February 29). Resilience in Education. News segment on The Bahamas Tonight. [56:00-59:00 clip] <https://www.youtube.com/live/WZyKzRtlZFk?si=VNj2Szb2Fa9Bku>
- Sears, R. (2022, March 14). (1) Math Excellence - Dr. Ruthmae Sears. This presentation was hosted by Anastacia Palacios on Bahamas at Sunrise. <https://www.facebook.com/203218586408312/videos/524579002427305>
- Sears, R. (2022, March 4). AAAS award viral celebration in The Bahamas. This presentation was hosted by Spence Finlayson on Immediate Response. <https://www.facebook.com/znsnewsofficial/videos/384241176399107>
- Sears, R. (2022, February 28). *USF math professor shows students the beauty of numbers*. This was produced by Kelly Ring for Fox 13-Tampa Bay, What's Right in Tampa Bay segment. <https://www.fox13news.com/news/usf-math-professor-shows-students-the-beauty-of->

[numbers?fbclid=IwAR3ihYE2ZanxSb0gx9tshspWWtVQWYpWuuzXZM1kLT2saNwit1D59GGCOWc](https://www.facebook.com/watch/?v=11458156848815684848&fbclid=IwAR3ihYE2ZanxSb0gx9tshspWWtVQWYpWuuzXZM1kLT2saNwit1D59GGCOWc)

- Sears, R. (2022, February 16). A discussion on structural racism in St. Petersburg. The community conversation was sponsored by Tombolo Books and the African American Heritage Association (AAHA). Broadcasted live on the Tombolo Book Facebook page. <https://fb.watch/bhdrxMx4Fv/>
- Sears, R. (2022, February 11). *Examination of historical and modern-day impact of structural racism on the lives of Black people in the City of St. Petersburg, Florida: The first steps towards transformative changes to promote racial justice and equitable opportunities for all*. Presentation at the St. Petersburg Women Voters League. Broadcasted live on the Tampa Bay Breakfast Club Facebook page <https://fb.watch/b5-H-vew9k/>
- Sears, R. (2022, February 7, 2022). USF researchers spearhead study to identify, address systemic racism. CW44-CBS News. <https://tampa.cbslocal.com/2022/02/07/usf-researchers-spearhead-study-to-identify-address-systemic-racism-1/>
- Sears, R. (2021, December 9). Structural racism study results. Spectrum Bay New 9.
- Sears, R. (2021, December 9). *USF researchers to present final structural racism report to St. Petersburg leaders on Thursday*. WFTS -ABC News. <https://www.abcactionnews.com/news/region-pinellas/usf-researchers-to-present-final-structural-racism-report-to-st-petersburg-leaders-on-thursday>
- Sears, R. (2021, May 5). *USF partners with St. Petersburg to identify systemic racism throughout the city*. WFTS -ABC News. <https://www.abcactionnews.com/news/region-pinellas/usf-partners-with-st-petersburg-to-identify-systemic-racism-throughout-the-city>

### ***Podcast and Radio Presentations***

- Sears, R., & Reese, G. (2021, January 18). Racism study authors talk highlighting the past and making suggestions for the future. WUSF Public Media/ NPR. <https://wusfnews.wusf.usf.edu/show/florida-matters/2022-01-18/racism-study-authors-talk-highlighting-the-past-and-making-suggestions-for-the-future>

### **Featured in News Articles**

- Warren, C., (2023, October 30). Seven Questions with Dr. Ruthmae Sears. Featured in The Cambridge Mathematics <https://www.cambridgemaths.org/blogs/seven-questions-with-dr-ruthmae-sears/>
- Baker, A. (2022, February 24). Seven Questions with Dr. Ruthmae Sears. Featured in *The Gabber*, Florida's oldest independent weekly newspaper. <https://thegabber.com/seven-questions-with-dr-ruthmae-sears/>
- Roa, S. (2022, January 13). Ruthmae Sears. *USF Boundless Bull*. <https://www.usf.edu/news/boundless-bulls/faculty-staff/ruthmae-sears.aspx>

### **Invited STEM Event at the National Level due to Expertise**

- May 1, 2024. 2024 White House Summit on STEM Equity and Excellence: Propelling Progress and Prosperity, Washington, DC.

- February 20-22, 2024. Financial Alignment with Inclusive Teaching Effectiveness (FAITE) Workshop – A Bayview Alliance Initiative. HHMI Chevy Chase Headquarters, Washington, D.C.
- April 19-20, 2024. South Big Data Hub Partnership Forum. Alexandria, VA.

## TEACHING EXPERIENCE

### Courses Taught

#### *High School*

C.R. Walker Senior High School (The Bahamas)	Grade 10 – Mathematics
	Grade 10 – Mathematics (Honors)
	Grade 11 – Mathematics
	Grade 11 – Mathematics (Honors)
	Grade 12 – Mathematics
	Grade 12 – Mathematics (Honors)

#### *Undergraduate*

University of Missouri	MATH 0110- Intermediate Algebra
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MATH 1100- College Algebra

University of South Florida	MAT 1033- Intermediate Algebra
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MAE 3224 – Middle School Mathematics Methods 1

MAE 4320 – Teaching Mathematics for Middle Grades

MAE 4945 – Practicum in Mathematics Education

MAE 4330 – Teaching High School Mathematics

#### *Graduate*

University of South Florida	MAE 6356 – Teaching Pre-secondary Mathematics
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MAE 6362- Senior High Mathematics Methods

MAE 6329 – Geometry and Measurement for Middle Grades Teachers

MAE 6338-Topics in Teaching Geometry

MAE 6906 – Independent Study in Mathematics Education

MAE 6945 – Practicum in Mathematics Education

MAE 7146 – Curriculum History and Research in Mathematics Education

MAE 7910 – Directed Research in Mathematics Education

MAE 7945 – Practicum in Mathematics Education

MAE 7980 – Dissertation

### ***Faculty and Staff***

University of South Florida Inclusive and Equitable Pedagogy Course  
(<https://www.usf.edu/innovative-education/citl/inclusive-equitable-experience.aspx> )

University of South Florida Enlightenment Series (<https://www.usf.edu/president/anti-racism/resources/enlightenment-series.aspx> )

### **RESEARCH SUPERVISION (Students for whom I serve as a Major Professor, co-Major Professor, or Committee Member)**

#### **Dissertations**

2024- Present

Chuqian Song (chairperson)

2024- Present

Aizhan Bakytbek (chairperson)

2022 – 2024

Dr. Alexandra Green – Chairperson (Graduated)

Dissertation Title: *The Attitudes, Perceptions, and Motivations of Student-Athletes in Intermediate Algebra*

2024

Dr. Muhammed Rashad Erukulangara – External Chairperson and Committee Member (Graduated) -

Dissertation Title: *Improvements in Computational Techniques for Determining Ideal Class Groups and Class Numbers*

2015 - 2024

Dr. Lakesia Dupree – Co-Chairperson (Graduated)

Dissertation Title: “ *Mathematics Teacher Preparation Reimagined: The Next Generation of Upper Elementary School and Middle Grades Teacher Candidates Enacting Culturally*

*Responsive Teaching in a Mathematics Methods Course that Addresses Grades 5-9 Mathematics Content”*

- 2023- Present Jenise Freeland (chairperson)
- 2017- 2022 Dr. Caree Pinder – Chairperson (Graduated)  
Dissertation Title: “*Intermediate Algebra Students’ Perspectives Towards Learning Mathematics, and Technology*”
- 2019-2022 Dr. Dennis Ward – Committee Member and External Chairperson for the Defense. (Graduated)  
Dissertation Title: “*The Effects of Motivationally-Enhanced Digital Game-Based Learning on Undergraduate Students’ Learning Motivation, Math Achievement, and Learning Retention in College Algebra*”
- 2018- 2021 Queshonda Kudaisi – Chairperson (Graduated)  
Dissertation Title: “*Learning, Planning For, and Reflecting on Teaching Mathematics for Social Justice: A Case Study Investigation of a High School Mathematics Methods Course*”
- 2018- 2021 Cynthia Castro-Minnehan- Chairperson (Graduated)  
Dissertation Title: “*An Ecology of Learning: Secondary Mathematics Teacher Candidate Learning While Co-Teaching in Early Clinical Practice*”
- 2021 Kiesha Pierre – External Chair (Graduated)  
Dissertation Title: *Computational Fluid Dynamics (CFD) Analysis of the Hydraulic Performance and Bio-Kinetics in A Full-Scale Oxidation Ditch* (Doctoral dissertation, University of South Florida).
- 2016 -2019 Dr. Keisha Albritton – Chairperson (Graduated)  
Dissertation Title: *Ratios and Proportional Reasoning Representations in Open Educational Resources.*
- 2015 - 2018 Dr. Pelagia Kilgore - Committee Member (Graduated)  
Dissertation Title: *Adult College Students' Perceptions about Learning Mathematics via Developmental Mathematical xMOOCs*
- 2012 - 2016 Dr. Kenneth Butler - Committee Member (Graduated)  
Dissertation Title: “*Motivation for mathematics: The development and initial validation of an abbreviated instrument*”
- 2012 - 2015 Dr. Ilyas Karadeniz - Committee Member (Graduated)



Dissertation Title: *“UCSMP teachers' perspectives when using graphing calculators in advanced mathematics.”*

2018- Present

Prathima Gogumulla- Co-Chairperson

Tentative Dissertation Title: *“Levels of Cognitive Demand and Authenticity of Real-World Problems in Grade 8 Probability and Statistics Curriculum Materials”*

### **Undergraduate Honors Theses**

2014 - 2015

Cassandra Garton - Co-Chairperson

Thesis Title: *“Intermediate Algebra Student Perspectives of the Usefulness and Challenges of Learning Mathematics in a Computerized Learning Environment”*

2016 - 2017

Shivani Sookchand - Co-Chairperson

Thesis Title: *“Exploration of Art Programs in Mathematics Courses to Promote Inclusiveness”*

2017- 2018

Abbi Rinaldi – Co-Chairperson

Thesis Title: *“Integrating Statistics into Undergraduate Journalism Curriculum”*

2021 – 2022

Erika House – Chairperson

Thesis Title: *“Mathematics Education Reform: Gender Differences in Applicability of Mathematics Courses”*

2022-2023

Alyssa Eman- Chairperson

Thesis interest: Bi-lingual strategies to support English Language Learners in Mathematics

### **SERVICE ACTIVITIES**

#### **Development of New Course**

I developed the IDS 6938 Seminar course “Teaching sustainability with applications of mechatronics for STEM educators and professionals.” The course provides insight as to how mechatronics can promote sustainability initiatives in STEM spaces. The course will be offered in the Summer of 2025.

## Development of Professional Development Series, Non-Credited Course, and Summer Camps and Activities

### *Non-Credit Earning Course / Workshop for Inservice Teachers*

PAInTing Art in Literary works: Using Graphic Novels to Develop Literacy Skills  
(2024, April 4).

This workshop demonstrated how graphic novels contribute to meaningful learning experiences and the value of arts integration in educational settings. Graphic novels serve as tools for individuals to derive meaning from both language and visualization techniques. This workshop was facilitated by Denise Davis-Cotton, Ariana Banack, Rosa Nam, Jarod Rosello, Ruthmae Sears and was funded (\$8,500) by the Center for PAInT.

University of South Florida Enhancing and Transforming mathematics teaching and learning with GeoGebra (2023) .

This training highlighted how GeoGebra can be used to promote students' engagement with mathematics. Teachers were able to: (1) review the importance of visualization in developing a conceptualization understanding of Algebra and Geometry; (2) Explore features of GeoGebra; (3) Illustrate how to create animations with GeoGebra; (4) Engage in mathematical activities using GeoGebra.

University of South Florida Reimagining Opportunities to Advance Reasoning (R.O.A.R) in Mathematics. (2023)

This workshop described strategies that could be used to enhance students reasoning skills and support the Florida B.E.S.T. Mathematics Thinking and Reasoning Standards.

University of South Florida Technology Integration in Mathematics to Promote Mathematical Proficiency and Computational Thinking (2022)

(<https://anchin.beta.catalog.instructure.com/browse/mathpd/courses/2066>)

With funding from Texas Instrument (TI) 30 teachers were able to attend the training free. Particularly, TI paid for the digital badges, provided each teacher a TI-Navigator and Rover, paid all the food, and for instructors. Hence, the unofficial value is about \$6,500.

### *Professional Development Series Developed for Preservice and Inservice Teachers*

Transforming Instruction of Geometry- Emphasizing Reasoning And Proof (TIGER- AP)  
Registration - Spring 2025

In Fall 2024, I co-developed a community of practice called TIGER-AP, which will be offered to teachers in Spring 2025 . The TIGER-AP online Community of Practice (CoP) aims to support

the teaching and learning of geometry and the development of reasoning and proof skills in secondary schools (Grades 6-12). The CoP provides a welcoming and supportive environment for geometry teachers to strengthen their technological pedagogical content knowledge, share instructional strategies and experiences, integrate technological tools during instruction (such as FullProof.io), work collaboratively, and support students' abilities to construct proofs and demonstrate proficiency in geometrical reasoning.

University of South Florida Clinical Experiences in Secondary Mathematics – Promoting Co-Planning and Co-teaching

Videos of the PD are online

- A paradigm shift - <https://www.youtube.com/watch?v=GmnBdqvxig>
- Co-Teaching (Module 2 ) <https://www.youtube.com/watch?v=VQFdEtX2XU>
- Structured Conversations - <https://www.youtube.com/watch?v=TRd-xY-enWc>

University of South Florida PAInTing Arts Learning in STEAM to Promote Mathematical and Literacy Skills (<https://www.eventbrite.com/e/usf-paint-center-and-crayola-learning-series-tickets-338205520817> )

University of South Florida Mathematics Power Hour (<https://www.eventbrite.com/e/mathematics-power-hour-productive-conversations-to-unpack-florida-best-tickets-185723232187> )

### ***Summer Camp or Initiatives Developed for Secondary School Students***

University of South Florida College Reach Out Program -STEM Week (2024)  
I developed week-long activities to expose students to STEM content, such as modeling the world around them, preventing and addressing cyber-attacks, engineering design processes and applications, and converging coastal communities..

University of South Florida CodeBreakHers (<https://www.codebreakhers.org/> )  
I market the event, review applications and select candidates, and support instructions exposing students to cyber security content.

Developed six-week enrichment activities to support gifted high school students in collaboration with Prep and Me (2023)

I supervised the development of a six-week training program at the University of South Florida to support preservice teachers in providing engaging instruction to gifted high school students.  
<https://www.usf.edu/arts-sciences/centers/csl/documents/media-brief-for-prep-and-me-collaboration-2-15-csl.pdf>

***Professional development for Graduate STEM Lab Teaching Assistants***

I organize and facilitate year-long professional development training for graduate STEM lab teaching assistants that promotes high impact practices and equitable outcomes (2018- present).

**Support and Engagement with NSF- Research Experiences for Undergraduates (REU)**

- Making waves REU (OCE-2244285)
- Cryptography and Coding Theory at the University of South Florida (2244488)

**Professional Faculty Learning Communities, Workshop , and training to Support Professional Growth**

I participated in the following professional learning communities:

2022 - 2023 – Faculty Learning Community (FLC) Member- Accommodations, Accessibility, and Ableism in Academia

2021 – 2022 Faculty Learning Community (FLC) Member - Learning Analytics to Address Inequities in STEM

2021 Inclusive and Equitable Pedagogy (IEP) Workshop 1: Leveraging Differences to Promote Inclusive Excellence

**Professional Training**

2024 Professional Employee Training offered by USF Employee Learning

**Professional Service (i.e. editorial services, professional committees etc)**

- |                         |   |
|-------------------------|---|
| October 26-29, 2023     | Institute on Teaching and Mentoring<br>Role: USF Ambassador<br>I assisted with the recruitment of postdocs and graduate students to USF and illustrated the strengths of our university as we work to broaden participation in STEM.  |
| September 2023- Present | Hillsborough County Math Bowl<br>Role: Sponsor, organizer, and items reviewer -<br>I sponsored the event by paying for the location to host the event out of my research funds. Additionally, I assisted with the planning, soliciting of awards, and organizing the structure of the event. I also reviewed the proposed mathematics questions for accuracy and grade level suitability. |
| November 2021- Present  | Howard Hughes Medical Institute (HHMI) Driving Change Initiative  |

- Role: Reviewer (<https://www.hhmi.org/science-education/programs/driving-change> ).
- October 2021 – 2023 Florida Council of Teachers of Mathematics (FCTM) Access and Equity Committee  
Role: Co-Chair for Grades 6-12
- September 2021- 2022 AAAS – ARISE Blog  
Role: 2022 editor <https://aaas-arise.org/whats-new/blog/>
- January- April, 2021 I’m Speaking Series – Hosted by the Women and Leadership Initiative – The Bishop Center for Ethical Leadership.  
Role: Co-Creator and Facilitator. Links to sessions are:  
<https://www.youtube.com/watch?v=ejSC6QSwMvg> ,  
<https://www.youtube.com/watch?v=50FE4vdrNfl> ,  
[https://www.youtube.com/watch?v=K\\_o88ILoO1E](https://www.youtube.com/watch?v=K_o88ILoO1E)
- National Football League (NFL) -Super Bowl LV -*Huddle for Change*.  
Role: Facilitator on sessions focusing on racial equity and health equity. The link to the *Kickoff*  
*Recording*: <https://vimeo.com/502649014>
- March 2020- 2023 National Council of Teachers of Mathematics (NCTM) journal, *Mathematics Teacher: Learning and Teaching PreK-12 (MTLT)*.  
Role: Associate editor for the high school grade band
- December 2019- Tampa Bay Black Heritage Festival Leadership Luncheon  
Role: Co-Chair.
- August 2019- 2020 Florida Council of Teachers of Mathematics – State Standards  
Role: Reviewer for calculus, geometry, algebra, probability, and statistics.
- June 2019- Present Bay View Alliance  
Role: University of South Florida Representative for the Diversity Equity and Inclusion Working Group.
- April 2017- 2018 Florida Metropolitan STEM Continuum: From College to Career Program  
Role: Member of the network improvement community (NIC) focusing on broadening participation in science, technology engineering and mathematics (STEM).
- January 2018- Present National Science Foundation  
Role: Reviewer

August 2018- 2023	Association of Public Land-Grant University- Network of STEM Education Centers (NSEC) Role: Steering committee co-chair. The other co-chairs are Cynthia Ghent (Townson University), and Ken Griffith (Texas Tech University).
June 2018- Present	Accelerated Systemic Change Network Role: co-Chair for equity, inclusion, diversity and social justice working group (WG5) <a href="https://ascnhighered.org/ASCN/diversity.html">https://ascnhighered.org/ASCN/diversity.html</a> .
January 2017-2020	Association of Mathematics Teacher Educators (AMTE) Research Committee Role: Committee Member
September 2016 - Present	ThEMaT 3/LessonSketch Modules - University of Maryland Role: Inquiry group member
May 2016 - Present	Florida Distance Learning Association (FDLA) Conference Role: Planning Committee Member
January, 2016 - Present	Florida Department of Education – State Course Numbering System (SCNS) Role: Discipline Coordinator for Mathematics Education (MAE) and Science and Mathematics Education (SMT)
August 2014 - Present	American Educational Research Association Role: Reviewer for the mathematics education and teaching and teacher education Special Interest Groups (SIGs).
August 2014 - Present	National Conference of Teachers of Mathematics Publications Role: Reviewer
April 1 2015 - Present	State Science & Engineering Fair of Florida Role: Senior Judge
October 2012 - Present	Florida Association of Mathematics Teacher Educators (FAMTE) Role: Vice President for public universities (2016-Present), and secretary (October 2014-2015).
April 2014 – June 2020	Mathematics Teacher Education Partnership (MTEP) Role: Chair of co-planning and co-teaching research action cluster.
March 2014 - 2017	Florida VEX Robotics State Championship Role: Senior Judge

- February 2014 - Present Hillsborough Regional Science Fair  
Role: Senior Judge for Behavior and Social Sciences category.
- September 2013 - Present Florida Teacher Certification Examination  
Role: Evaluator of assessment items for teacher certification in the state of Florida.
- August 2012 - Present National Council of Teachers of Mathematics (NCTM) –  
Research Pre-session  
Role: Reviewer and Facilitator
- August 2012 – August 2016 Congress of European Research in Mathematics Education  
(CERME 8 and CERME 9)  
Role: Reviewer
- February 2011 - Present Psychology of Mathematics Education - North American  
Chapter (PME-NA)  
Role: Reviewer
- June 2009 - Present Mathematics Teaching in the Middle School Journal  
Role: Reviewer
- May 2009 - Present School Science and Mathematics Journal  
Role: Reviewer
- April 2009 - Present Ronald McDonald House Charities (RMHC)  
Role: Volunteer and member of the board of directors for RMHC  
Tampa Bay (effective December 2020). Secretary for RMHC  
Tampa Bay December 2023- Present.
- 2007 - 2008 National Science Council for The Bahamas  
Role: Appointed member by the Governor General (The queen’s  
representative).
- 2007 - Present PACE Foundation Bahamas  
Role: Board Member <http://www.pacebahamas.com/>
- University Service**
- 2023 – Present CITL TA Teaching Advisory Team  
Role: Advisory Team Member
- September 2022- July 2025 University of South Florida- Faculty Senate  
Role: Senator for the College of Education, chair of the  
Committees on Committee, Member of the constitution  
Committee, Member of the Teaching Evaluation committee

January 2021-Present	Florida Alliance for Graduate Education and Professoriate (FLAGEP). Role: Senior Scholar and Mentor.
September 2020-Present	University of South Florida- Institute on Black Life. Role: Faculty advisor.
July 2020- July 2023	University of South Florida - University-Wide Sabbatical Committee Role: Member
June 2020- Present	University of South Florida Black Steering Committee Role: Co-chair of Professional Development committee and host of Enlightenment Series ( <a href="https://www.usf.edu/president/anti-racism/resources/enlightenment-series.aspx">https://www.usf.edu/president/anti-racism/resources/enlightenment-series.aspx</a> ).
2018- Present	Kappa Delta Pi – Lambda Tau Chapter Role: Advisor
2019- Present	Bahamian United and Impactful (B.U.I) Role: Chapter Advisor
May 2018	USF Research BootCamp Role: Senior scholar and mentor
September 2016 - 2018	University of South Florida STEM Education Summit Role: Planning Committee Member and Presenter
September 2016 - Present	University of South Florida Black Faculty and Staff Association (BFSA). Role: Scholarship review committee, Host of Annual Breakfast, Mentor.
January 2016 - 2022	The University of South Florida STEER Transformation Implementation Leadership Team (TILT). Role: TILT Member and Key Personnel for STEER Grant
May 2015 - 2023	University of South Florida Commencement Ceremony Role: Marshall

### **College / Department Service**

September 2021



-September Present	FPC Faculty Success and Community Initiatives Committee (FSCIC) Role: Co-chair (2021- 2023) and committee member (2023- Present)
October 2020- September 2021	Faculty Policy Council – Reimagining Education at USF Taskforce Role: Co-chair
February 2020 – 2023	University of South Florida – College of Education-Department of Teaching and Learning - Governance Committee Role: Committee Member.
January 2020- February 2021	University of South Florida – College of Education-Department of Teaching and Learning - Tenured and Tenure earning Faculty Annual Review Committee Role: Committee Member
April 2019- August 2021	University of South Florida – College of Education - Faculty Policy Council (FPC) Role: Elected and served as vice- chair
August 2019- Present	University of South Florida – College of Education -Constitution Committee Role: Chairperson
April 2016 - Present	University of South Florida - College of Education Scholarships Committee Role: Selection Committee Member
September 2012 - June 2014	Mathematics Education Colloquium Role: Facilitator
September 2012 - April 2017	Mathematics Education Search Committee Role: Committee Member
July 2010 - July 2012	University of Missouri Family Friendly Task Force Role: Sub-committee member for space planning.
February 2009 - April 2010	Center for Study of Mathematics Curriculum (CSMC) Role: Planning committee member for CSMC Doctoral Symposium 2010 in San Diego, California.
December 2008 - May 2012	UMC Synthesis Projects for High School Mathematics.

Role: Evaluator for capstone projects.

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

February 2021 – Present	Sigma Xi- Scientific Research Honor Society
September 2017 - Present	American Association for the Advancement of Science
August 2009 - Present	American Educational Research Association (AERA)
February 2013 - Present	Association of Mathematics Teacher Educators
April 2011 - Present	Griffiths Leadership Society for Women
April 2005 - Present	Kappa Delta Pi Honor Society in Education
March 2010 - Present	Mathematics Association of America (MAA)
November 2005 - Present	National Council for Teachers of Mathematics (NCTM)
February 2010 - Present	Psychology of Mathematics Education- North America Chapter (PME-NA)

**INDEPENDENT CONSULTANT**

2017-2019	Guidepoint
2020- Present	Amplify/ XQ
2021- Present	Knowledgehook