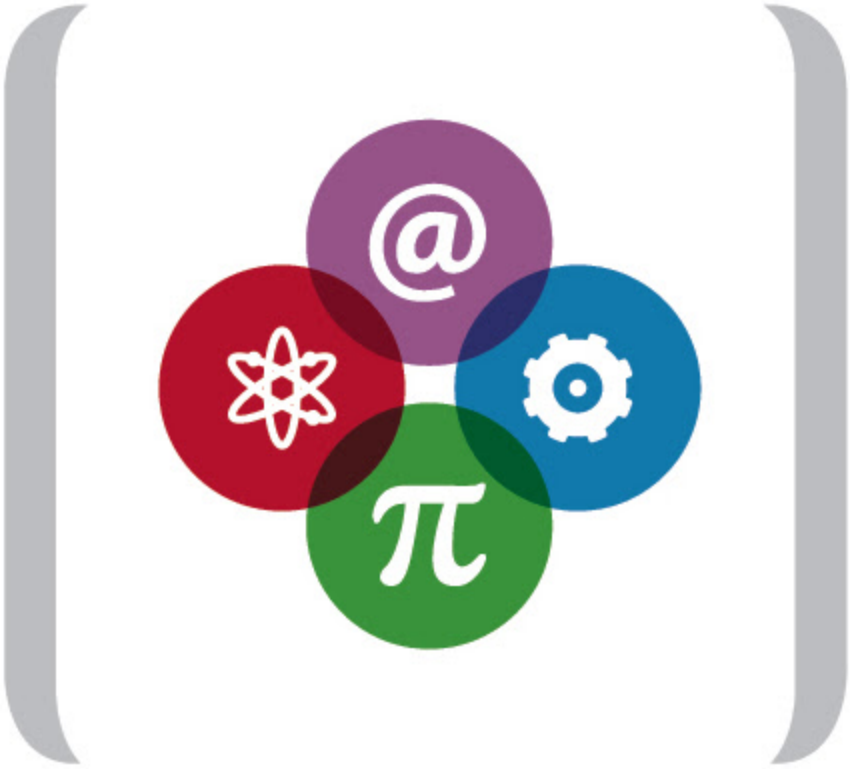
2013 STEM Leadership Academy



Solving the STEM Equation

Council for Educational Change
established by the FLORIDA ANNENBERG CHALLENGE

Hillsborough County PUBLIC SCHOOLS
Excellence in Education

Helios Education Foundation

Hyatt Regency
Sarasota, FL
August 1-3, 2013

Welcome

August 1, 2013

Dear Academy Participants,

Welcome to the *2013 STEM: Strong & Steady Academy* generously sponsored by the Helios Education Foundation and conducted by the Council for Educational Change in partnership with Hillsborough County Public Schools (HCPS). We appreciate the special assistance of Dr. Stacy Carlson, Helios Education Foundation Vice President and Program Director – Florida; Dr. Elaine Liftin, Council for Educational Change Executive Director; and Mary Ellen Elia, HCPS Superintendent, for their support and guidance. We also want to thank Carnival Cruise Lines, Florida Blue, and Publix Super Markets Charities for their support of this event.

We are pleased to welcome back the schools who participated in the STEM: Strong & Steady project in 2012-2013 and attended the 2012 Academy. Thank you to the school teams at Adams, Bartels, Davidsen, Madison, Martinez, McLane, Orange Grove, Stewart and Webb for your diligent and committed project work last year. We also want to welcome a new group of schools: Greco, Hill, Marshall, Monroe, Progress Village, Tomlin, Wilson and Young. We look forward to working with all of you at the Academy and throughout the 2013-2014 project year.

Thank you also for participating in the Academy and taking time from your busy personal and professional responsibilities to attend this STEM leadership development event. We have planned an agenda that is aligned to the project's purpose and objectives and that is also responsive to your needs and your goal to develop a quality STEM program at your school.

This is a multi-year project and our Project Team is committed to supporting your work every step of the way. We will all learn from each other, and it is our sincere hope that what is learned and practiced through this project will lay a foundation for best practices in STEM instructional leadership which can be institutionalized in our district and state. Please feel free to contact any members of the Team at any time.

Again, thank you for participating in the event and the project. We hope you enjoy your STEM Academy experience!

Sincerely,

The STEM: Strong & Steady Project Team

Council for Educational Change
Pete Bucholtz, *Project Director*
Sherry Clarke
Ralph Hewitt
Sisty Walsh
Doreen Outler

Hillsborough County Public Schools
Larry Plank, *HCPS Project Lead*
Pam Caffery
Tammy Rush

Academy Purpose & Objectives

Academy Purpose:

To Continue the Work of the *STEM: Strong and Steady Project* by Building Capacity for Student STEM Success through Excellence in Instructional Leadership

Academy Objectives:

- To gain practical ideas about how I can be more effective in my role in contributing to STEM education at my school.
- To clarify the importance of the "T and E" in STEM.
- To explore the integrative model lessons developed through the *STEM: Strong & Steady Project*.
- To connect STEM to the Common Core State Standards and Next Generation Science Standards
- To network the new Cohort 2 project school teams with the Cohort 1 schools which will serve as a resource and support.

"By investing in education with a focus on STEM, Helios and its partners are not only helping student acquire these skills but are creating a college-going culture that values and promotes academic persistence and success."

-Helios Education Foundation 2011 Annual Report

Helios Education Foundation

The Helios Education Foundation generously sponsors the STEM: Strong and Steady Project

Information concerning the Helios Education Foundation is excerpted from their website: www.helios.org

What is the Helios Education Foundation?
The Helios Education Foundation is a philanthropic organization dedicated to enriching lives by creating opportunities for individuals in Arizona and Florida to succeed in postsecondary education. The Foundation works to improve student success across the education continuum in the areas of: Early Childhood Education; the Transition Years (Grades 5 - 12); and Postsecondary Success.

How was Helios Education Foundation started?
The Helios Education Foundation was created in 2004 through the conversion, reorganization and ultimate sale of Southwest Student Services Corporation (Southwest), and its affiliates Arizona Educational Loan Marketing Corporation (AELMAC) and Florida Educational Loan Marketing Corporation (FELMAC). Southwest was a full-service provider of student loan products and services to students, families and schools in Arizona, Florida and nationally. Upon its sale to SLM Corporation, the $500 million in net proceeds was used to create an endowment for Helios Education Foundation.

Why does the Foundation focus on education?
We believe education changes lives and strengthens communities. Our vision is for every individual in Arizona and Florida to have the opportunity to attend and be prepared to succeed in postsecondary education. Our roots are in education and in helping individuals gain access to postsecondary education opportunities.

Foundation Goals:

- **Improve Academic Rigor and Relevance with an Emphasis on STEM**
- **Create and Sustain Highly Skilled Teachers and Effective Leaders**
- **Embed a College-going Culture Supported by Actively Engaged Families and Communities**

What areas within education does Helios Education Foundation invest?
The Foundation has identified three areas within education to contribute its expertise, leadership and financial resources including Early Childhood Education; the Transition Years (Grades 5-12); and Postsecondary Success. Within Early Childhood Education, Helios is focused on ensuring children enter school prepared to learn and succeed by increasing the quality of the early learning environment. Our efforts in the Transition Years are to help more students successfully transition through the various stages of education and graduate prepared for postsecondary education. Within Postsecondary Success, we are removing barriers, increasing access and supporting students through the successful completion of a postsecondary program.

What kind of impact does Helios Education Foundation hope to have in education?
The Foundation intends to have a lasting, positive impact on individual lives and the two states we serve, creating opportunities for individuals in Arizona and Florida to succeed in postsecondary education. Our work is grounded in our belief that education changes lives and strengthens communities. Through strategic partnerships and the investment of our financial, human and intellectual resources in the areas of Early Childhood Education, the Transition Years (Grades 5 -12) and Postsecondary Success, Helios seeks to increase the number of children, ages birth to five, entering school ready to learn and succeed; help more youth stay in school, transition through the various stages of education and graduate academically prepared for postsecondary education; and remove barriers, increase access and support more individuals to successfully complete a postsecondary program.

Academy Program Day 1

Thursday, Aug. 1, 2013			
TIME	**SESSION/ACTIVITY**	**PRESENTER**	**LOCATION**
3:00 – 5:00 pm	**Check-in & Academy Registration**		Salons AB
5:30 – 6:30 pm	**Welcome Reception**		Pre-function South
6:30 – 8:30 pm	**Dinner** ***Greetings & Academy Overview*** ***Dinner Keynote:*** *"State of STEM in Hillsborough"*	Dr. Elaine Liftin, *Council for Educational Change President and Executive Director* Larry Plank, *Director for K-12 STEM Education*	Salons ABH

Academy Program Day 2

Friday, August 2, 2013			
TIME	**SESSION/ACTIVITY**	**PRESENTER**	**LOCATION**
7:00 – 8:00 am	**Additional Registration** **Breakfast: Boat House Restaurant**		
8:15 – 8:30 am	**Overview of Day**	Pete Bucholtz and Larry Plank	Salons ABH
8:30 – 9:45 am	**General Session 1:** Preparing Florida's Future Workforce	Dr. Tom Herald	Salons ABH
9:45 –10:30 am	**Schools Session 1:** Partnering for Success – Working Together	Group Session Assignments	Salons ABH
10:30 – 10:45 am	**Break and Refreshments, Pre-function South**		
10:45 am – 12:15 pm	**General Session 2:** Applying the "E" of STEM	Larry Plank	Salons ABH
12:15 – 1:30 pm	**Lunch: Boat House** ***Remarks* - Dr. Stacy Carlson, Helios Education Foundation VP**		
1:30 – 2:30 pm	**CONCURRENT SEE & SHARE SESSIONS 1**		
	MATH: It's Not Just the M on the End! Making Meaningful Connections between CCSS-M and STEM	Tammy Rush and Danni Resnick	Salon A
	I'm New Here! What is an Integrative STEM Lesson?	Nicole Jacquay and Vicki Viverito	Salon B
	Intersecting Standards: Common Core and the Next Generation Science Standards	Pam Caffery and Mariel Milano	Salon H
	Connecting CCSS-ELA and Science through Argumentation (Claim, Evidence, Reasoning)	Dr. Troy Suarez and Hannah Graziano	Ringling
	Free, Fabulous and STEMastic!! Using Technology to Support STEM Learning	Dr. Nancy Ruzycki	Longboat/Lido
	Engaging Kids in STEM: Blending Lego Robotics with the NGSS through STEM Practices	John Baskett, Desiree Daerr, Lisa Bird and Yariel Vignau	Siesta/Casey
2:30 – 2:45 pm	**Passing and Break**		

Academy Program Day 2

Friday, August 2, 2013			
2:45 - 3:45 pm	**CONCURRENT SEE & SHARE SESSIONS 2**		
	MATH: It's Not Just the M on the End! Making Meaningful Connections between CCSS-M and STEM	Tammy Rush and Danni Resnick	Salon A
	I'm New Here! What is an Integrative STEM Lesson?	Nicole Jacquay and Vicki Viverito	Salon B
	Model Eliciting Activities	Mariel Milano	Salon H
	Tech Tools to Create Tech Savvy Students	Michele Detwiler and Hannah Graziano	Ringling
	Yes, We Can! – Engaging under-represented students in STEM	Dr. Nancy Ruzycki	Longboat/Lido
	Diving Into STEM Through Endeavor	John Baskett, Ayana Lucas, Rodger Lawson, and Desiree Daerr	Siesta/Casey
3:45 – 4:00 pm	**Break and Refreshments,** Pre-function South		
4:00 – 5:00 pm	**School Teams Session 2:** What Have You Learned?	Group Session Assignments w/ District Staff	Salons ABH, Ringling, Longboat/Lido and Siesta/Casey
5:00 – 5:30 pm	**Reflection and Daily Survey**	Group Session Assignments w/ District Staff	Salons ABH, Ringling, Longboat/Lido and Siesta/Casey
Discover Sarasota – Dinner on Your Own			

Academy Program Day 3

Saturday, Aug. 3, 2013			
TIME	**SESSION/ACTIVITY**	**PRESENTER**	**LOCATION**
7:00 – 8:15 am	**Breakfast:** Boat House Restaurant		
8:30 – 8:45 am	**Welcome and Goals for Day 3**	Larry Plank and Pete Bucholtz	Salons ABH
8:45 - 11:30 am	**General Session 3:** Some Days You're the Pigeon… Some Days You're the Statue*	Dave Weber	Salons ABH
11:30am – 12:45pm	**Lunch,** Boat House Restaurant		
12:45 - 1:45 pm	**School Teams Session 3:** Bringing it all together	Group Session Assignments District Staff	Salons ABH
1:45 – 2:15 pm	**Closing Session/Final Thoughts**	Pete Bucholtz and Larry Plank	Salons ABH
2:30 – 5:30 pm	**Special Session 1**: Defined STEM Pilot Schools	David Reese	Ringling
	Special Session 2 : Gizmos Orientation Session	Corey Peloquin	Salons ABH
	Special Session 3: Bio Rad for Middle School STEM	Sherri Andrews	Boat House

Special Note

Dave Weber will be selling his world-renown publications at the conclusion of his session. Be sure to pick one up and get it autographed!

General Session Descriptions

Opening Keynote: Preparing Florida's Future Workforce

Friday, 8:30am

Dr. Tom Herald

This discussion explores some observed differences between how we train our next generation of scientists, engineers and mathematicians and how industry expects them to perform once they get there. These differences lead to some highly behaviors; however, sometimes our teaching practices reinforce behaviors that can have a detrimental impact at the start of a young STEM-oriented career. The discussion is intended to be both a little fun and a little challenging in the context of 'industry expectations' of our new hires.

Group Session 1: Applying the "E" of STEM

Friday, 10:45am

Larry Plank

What does it mean to be an engineer? What does it mean *to* engineer? How should engineering look in our classrooms? Engineering is a component of the Next Generation Science Standards and is also an incredible opportunity to apply mathematical content—the standards of mathematical practice of the Common Core State Standards. In this presentation, participants will learn about the district adopted engineering and design cycle, and will actively compete in a challenge to produce the most effective, efficient flying egg capsule. Watch out for the yolk!

Some Days You're The Pigeon…Some Days The Statue!

Saturday, 8:30am

Dave Weber

This is one of the most frequently requested training programs we conduct because of its impact on the culture and climate of a school and the resulting improvement in student achievement through the creation of a positive learning community. As many education professionals strive to work as a strong team for the sake of children, the ability to work together has never been more critical to the success of a school. In fact, the Harvard Principals Center recently released the following statement: "The most powerful predictor of student achievement is the quality of relationships among the staff."

Roland Barth has also chimed in on this critical issue stating, "The nature of the relationships of the adults that inhabit a school has more to do with the school's quality and character and with the accomplishments of its pupils than any other factor."

See & Share Sessions

MATH: It's Not Just the M on the End!
Making Meaningful Connections between CCSS-M and STEM
Tammy Rush & Danni Resnick
This hands on, minds on session will allow participants to see how the M connects to the STE! The participants will experience a STEM Challenge that intertwines the Mathematics Common Core Standards, the Standards for Mathematical Practice, the ELA Common Core Standards, and the Next Generation Science Standards. Will your play dough pet survive the challenge? Prior to attending the session, if you have a smart phone, please download the FREE App, Socrative-Student Clicker. You can locate it by doing a search in the App store for "Socrative."

I'm New Here! What is an Integrative STEM Lesson?
Nicole Jacquay & Vicki Viverito
Participants will experience a hands-on activity and identify the learning opportunities that this type of activity promotes. Connections to Integrative STEM will be discussed with attention to the benefits and barriers that may exist in their implementation. Participants will be informed of the Integrative STEM lessons that have been created by our STEM Strong & Steady Teams and discuss the role they will take in the implementation of these lessons in the 2013-14 school year.

Intersecting Standards: Common Core and the Next Generation Science Standards
Mariel Milano & Pam Caffery
In this session, we will explore the revolutionary science and engineering practices laid out by the National Research Council's K-12 Framework for Science Education and investigate their connections to the Common Core State Standards Mathematical Practices and English Language Arts Portraits. One of the most important messages of the Next Generation Science Standards is that it is as important to learn what scientists and engineers do and how they think as it is to learn the core ideas of science and engineering. Participants will leave with a concrete understanding of the science and engineering practices laid out in the K-12 Framework for Science Education.

Connecting CCSS-ELA and Science through Argumentation (Claim, Evidence, Reasoning)
Dr. Troy Suarez & Hannah Graziano
Traditional curriculum standards do not require students to demonstrate an ability to apply knowledge, think critically nor solve problems. The rollout of Common Core and the Next Generation Science Standards demand that students not only master these skills, but they must also be able to communicate effectively both through writing and speaking. The Claims, Evidence, Reasoning, Rebuttal (CERR) framework pushes students to develop these skills through argumentation. Participants will be introduced to this model and deconstruct a student exemplar.

Engaging Kids in STEM: Blending Lego Robotics with the NGSS through STEM Practices
John Baskett, Desiree Daerr, Lisa Byrd & Yariel Vignau
Participants will receive a brief overview of LEGO Robotics, complete a hands-on activity using LEGOs, learn ways to tie robotics to NGSS. We will also share information about the HCPS sponsored "Bot Bash" and answer any questions about incorporating robotics into math and science.

See & Share Sessions

Free, Fabulous and STEMastic!! Using Technology to Support STEM Learning
Nancy Ruzycki
This session will look at three free programs (and one that costs) for use in STEM classrooms to support student learning objectives while achieving Common Core Literacy, Writing, and Mathematics standards. We will explore how the use of free programs like Scratch, SciLab and CAST Sciencewriter can help students apply technical information received through explicit instruction through collaborative activities requiring only a computer. I will also demo a new low cost program, GloblApp that allows students to collaborative work simultaneous on one assignment at the same time. We will do some hands on in this class, so if you want to load any of the freeware listed on your computer prior to this session, please do so, and bring your laptops to see how these programs might work in your classes. I will demo examples from elementary, middle and high school applications for each program.

Diving Deeper into STEM and the CCSS: Argumentation - Model Eliciting Activities
Mariel Milano
In this session, we will explore the revolutionary science and engineering practices laid out by the National Research Council's K-12 Framework for Science Education and investigate their connections to the Common Core State Standards Mathematical Practices and English Language Arts Portraits. Participants will leave with a concrete understanding of the science and engineering practices laid out in the K-12 Framework for Science Education.

Diving into STEM Through Endeavor
John Baskett, Ayana Lucas, Rodger Lawson & Desiree Daerr
The Endeavor Academy opens your eyes to the world of STEM in education. In this session, you will receive a wealth of knowledge and resources on how you can implement STEM into your classroom. This presentation includes an engaging process in which introduces you to the Engineering Design Process. You will also learn how to bridge the gap between math and science in order to bring it alive in your classroom. So, come with the expectancy of feeding your STEM hunger with knowledge from the Endeavor Academy world.

Tech Tools to Create Tech Savvy Students
Michele Detwiler & Hannah Graziano
We will explore tech tools that promote learning in our students and foster 21st century skills. Come willing to discuss and share your experiences integrating the "T" in STEM. Leave with a collaboration of sites and strategies you can use to create tech savvy students... even if technology isn't your strength.

Yes, We Can! – Engaging Under-represented Students in STEM
Nancy Ruzycki
This session looks at new ways to present concepts and constructs to students in an engaging manner without sacrificing rigor. Through the use of technology, and by creating supporting structures for students to access knowledge, student engagement and success increases. We will discuss and showcase three simple activities – use of explicit learning objectives for students through KUD charts, modification of instruction/scaffolding through student choice; and use of technology to support learners outside of class instructional time. Participants will take away some simple instructional tools to support all students for successful learning outcomes.

Special Sessions

Special Sessions are limited, optional opportunities for schools to pilot new projects and curriculum, or get a jump start on district initiatives. For the Gizmos and Bio Rad sessions, registration will be handled on a first come, first served basis through ticketing. The Defined STEM program will be site-licensed to two schools in which the mathematics and science departments agree to utilize and provide feedback to district curriculum staff. The administration of the Defined STEM pilot schools must also agree to support the program by making computer time available.

Defined STEM Software Program – LIMITED to 2 Sites (participants must have a laptop)

Saturday, August 3
2:30pm-5:30pm
Ringling Room
Presented by **David Reese** of Defined STEM

Teachers are asked to have lessons that are engaging and relevant, cross-curricular, focus on 21st century skills, differentiate learning, incorporate non-fiction reading and writing and provide an authentic assessment of their students understanding. We see this as the core fundamental of what STEM education is all about and Defined STEM strives to bring this type of learning to each teacher and student in a school.

How do we do this? Defined STEM combines a number of different content types that accentuate the educational strategies of STEM education. Real-World Videos set the stage for each lesson by showing the practical application of educational concepts within a company/industry. Performance Task built around the specific job/industry ask the students to apply the knowledge learned in a real world unpredictable situations. Literacy Tasks ask students to read, synthesize and write informative and/or position papers around the real world career based topic.

Defined STEM's Performance Tasks are built from the UBD (Understanding By Design) framework and presents a real-world problem within the context of a career/industry. The career based videos frame the task, which allows the students to see the task through the career lens. Each Task contains The Big Idea, Essential Questions and learning outcomes which outlines what will align with the learning in the Task.

Defined STEM's literacy tasks are designed for students in grades 3-12 and have been created using templates from the Literacy Design Collaborative (LDC). The tasks are developed to align with the Common Core English Language Arts Standards and are meant to promote high-quality student assignments that develop reading, writing, and thinking skills in the context of learning science, history, English, social studies, and other subjects. Informational and argumentative tasks are provided aligned with a career based video and a performance task. Each literacy task provides the student with an overview of the content, guiding questions closely aligned with research resources, a language prompt, tier three vocabulary, and a rubric aligned with the Common Core English Language Arts Standards. The tasks present the students with a "real-world" situation that encourages their writing through either informational or argumentative products. Click here to view a small sample of Defined STEM's literacy tasks.

Special Sessions

Explore Learning: 3-hour Initial Gizmos Training (25 Seats, must have a laptop)

Saturday, August 3
2:30pm-5:30pm
Salons ABH
Presented by **Corey Peloquin** of Explore Learning

Participants will gain access and learn how to use ExploreLearning Gizmos to deepen students conceptual understanding of math/science concepts. Initial Gizmos training is designed to demonstrate and provide hands-on experiences with Gizmos while guiding teaching through the setup and functionality of their ExploreLearning account. Participants will learn how to successfully integrate Gizmos into classroom instruction. The in-service will consist of a series of mini lessons using a guided instructional approach followed by individual and/or group practice of the skills and methods. The focus is on best practices for teaching with Gizmos.

BioRad Middle School STEM Solutions (20 Seats)

Saturday, August 3
2:30pm-5:30pm
Boat House
Presented by Sherri Andrews of Bio Rad

Great ideas stem from inquiry! Science, technology, engineering, and mathematics (STEM) are essential to each other in order to develop products to meet our needs. In fact, it is difficult to separate each of these disciplines from one another when teaching real-world applications. The STEM electrophoresis kit is a unique introductory electrophoresis laboratory with true integration of STEM through the assembly of a horizontal agarose gel electrophoresis cell. Perform actual dye electrophoresis using the STEM electrophoresis kit with the IDEA kit — inquiry dye electrophoresis activity.

Features and Benefits: Inquiry-based hands-on laboratory, Kit can be completed in two 45-min laboratory sessions, Visible results, STEM integration.

Applications and Uses
- For secondary and college level instruction, students will learn about the various components of a horizontal gel electrophoresis cell and what their critical properties are in order to achieve optimal separation results
- For middle school instruction, students will get their first experience with a key biotechnology technique
- The IDEA kit — inquiry dye electrophoresis activity is designed to run with the STEM electrophoresis kit
- The STEM electrophoresis teacher demonstration kit provides sufficient materials for 2 student workstations
- The STEM electrophoresis classroom kit provides sufficient materials for 8 student workstations with up to 4 students per workstation
- The STEM electrophoresis engineering module is configured for 2 student workstations

Jump Start Questions

Jump start questions are to be discussed informally by groups during each breakfast and will help frame each day's learning. Participants will be asked to share their thoughts during each day's welcome session.

Friday, August 2

How is the emphasis on STEM connected to the movement for "global" education?

What is the role of classroom teachers and administrators in promoting STEM with students?

How can we integrate STEM across STEM subject fields and other curriculum?

What is the relation of the Common Core Standards and STEM instructional planning and delivery?

Saturday, August 3

Why are communication skills critical to effective school and classroom leadership?

How can we sustain and institutionalize STEM best practices in our schools and district?

What should a STEM instructional leader know, model and be able to do in various educator roles?

What is the litmus test for identifying STEM instructional and leadership best practices?

Table Assignments

Table Assignments for the 2013 STEM Leadership Academy
Whole Group Settings – Salons ABH

Table A
Adams and Hill (9)

Table B
Monroe & Madison (9)

Table C
Bartels & Progress Village (10)

Table D
Greco & Davidsen (10)

Table E
Martinez & Stewart (Part) (8)

Table F
Young & Stewart (Part) (8)

Table G
Webb & Marshall (8)

Table H
Orange Grove & Wilson (9)

Table I
Tomlin (8)

Table J
McLane (6)

Table K
District Staff (9)

Table L
CEC Staff & Additional Delegates (9)

Group Assignments

2013-14 School Parings for the STEM Strong & Steady Project

Group 1: Adams/Hill (Nicole Jacquay)
Group 2: Madison/Monroe (Nicole Jacquay)
Group 3: Bartels/Greco (Tammy Rush)
Group 4: Davidsen/Martinez/Progress Village (Matt Rothenberger)
Group 5: Webb/Marshall (Michele Detwiler)
Group 6: McLane/Tomlin (Vicki Viverito)
Group 7: Orange Grove/Wilson (Tammy Rush)
Group 8: Stewart/Young (Pam Caffery)

Group Sessions – Paired Schools

Friday, August 2nd
9:45am – 10:30am
Salons ABH at Table Assignments

4:00pm—5:00pm
Salon A— Group 3: Bartels/Greco & Group 7: Orange Grove/Wilson (Tammy Rush)
Salon B— Group 1: Adams/Hill & Group 2: Madison/Monroe (Nicole Jacquay)
Salon H—Group 6: McLane/Tomlin (Vicki Viverito)
Ringling— Group 4: Davidsen/Martinez/Progress Village (Matt Rothenberger)
Longboat/Lido— Group 5: Webb/Marshall (Michele Detwiler)
Siesta/Casey— Group 8: Stewart/Young (Pam Caffery)

Saturday, August 3rd
12:45pm-1:45pm
Salons ABH at Table Assignments

Schools and Participants

ADAMS MIDDLE
Heath Beauregard
Lisa Byrd
LeAnn Garcia
Denise Kuhling
Laura Wilton

BARTELS MIDDLE
Dr. Tim Binder
Mark Groves
Bonnie Lawson
Rodger Lawson
Joyce Patterson
Daphne Schumacher

DAVIDSEN MIDDLE
Matt LaRosee
Brent McBrien
Rose Poynor
Shanta Talamantez

GRECO MIDDLE
Yinka Alege
Keeney Hayes
Elizabeth Heli
Brian Hermanson
Angel Hernandez
Manuschka Michaud

HILL MIDDLE
Jennifer Iacobucci
Dr. Jackie Scaglione
Ashley Smith
Coddie Webster

MADISON MIDDLE
Carla Baskett
Dr. Joseph Brown
Jeff Colf
Anthony Daniele
Ronald Kline

MARSHALL MIDDLE
Priscilla Bowers
Stanley Glover
Mary Mathis
Chandra Todd

MARTINEZ MIDDLE
LeeAnne Foster
Dr. Dallas Jackson
Shana Toth Logan
Jillian Mikahil
Bobbi Turner

McLANE MIDDLE
Kimberly Jahn
Tim Jones
Ayana Lucas
Maria Potter
Fella Stewart
Melissa Youngberg

MONROE MIDDLE
Misuzu Bondoc
Darrell Faber
Janet Steuart
Andrea Stingone

ORANGE GROVE
Robert Cooper
Shannon Butler
Michael Finkelstein
Paul Gansemer
Mercily Toledo

PROGRESS VILLAGE
John Feiler
Kinsey Keding
Vicki Kummelman
Harvey Tomlinson

STEWART MIDDLE
Darryl Beasley
Josephine Corder
Natalie Fisher
Pam McFarlin
Mark Taylor
Baretta Wilson

TOMLIN MIDDLE
Darren Aguero
Heather Colding
Amanda Fleming
Norma Goff
Deanna Jackson
Matthew Kulber
Susan Sullivan
Stacy Young

WEBB MIDDLE
John Baskett
Marcos Murillo
Anita Roberts
Yariel Vignau

WILSON MIDDLE
Nabile Amar
Colleen Faucett
Deborah Noles–Garcia
Margaret Wojtkowiak

YOUNG MIDDLE
Mary Abraham
Sylvia Mcrae
Kristen Long
Karen Vanessa Brown
Bridgett Bowles

Academy Presenters

Featured Speakers

Friday Opening Keynote
Dr. Tom Herald

Tom Herald received a M.S. in Electrical Engineering from the University of Maryland, and a B.S. in EE from the University of Pittsburgh. He earned a Ph.D. in Systems Engineering from Stevens Institute of Technology. As part of the Systems Design and Operational Effectiveness Program within the School of Systems and Enterprises at Stevens, the focus of his research provides the systems practitioner with an integrated approach for the development and execution of technology and obsolescence management. With industrial experience at IBM and now Lockheed Martin, Tom is a Senior Fellow with the Mission Systems and Training business area in Orlando, FL. Tom also teaches Systems Engineering fundamentals at both Stevens Institute of Technology and the University of Central Florida. Tom is certified by the International Council on Systems Engineering (INCOSE) as an Expert Systems Engineering Professional.

Saturday Full Group Session
Dave Weber

Dave Weber's fun, high energy, and entertaining style have made him one of the country's most sought after speakers. Described as a"Chihuahua on caffeine", Dave is always a crowd favorite. As a captivating presenter and phenomenal story teller, Dave has discovered that laughter opens the head and the heart to consider internalizing new principles…and humor is a big part of all of his presentations. People like to laugh and have fun. Talk to anyone who has just returned from a meeting, conference, or retreat and the first thing they'll tell you was whether or not it was fun – then they'll discuss content. Dave's style might get him invited to present, but it is his great content and timeless principles that get him invited back time and time again. Dave strongly identifies with the challenges other professionals face. His goal with every presentation is to motivate, challenge, and inspire everyone who hears him...and have a lot of fun along the way. Dave stakes his reputation on change...
....changed perceptions,
....changed attitudes,
....changed behaviors
....changes lives!

In addition to presenting on the motivational speaking circuit, Dave is the author of Sticks and Stones: Exposed: The Power of Our Words. He is president and CEO of Weber Associates, Inc., a training and consulting firm in Atlanta, Georgia. He and his wife Tina are the proud parents of two great kids.

Academy Presenters

Friday Full Group Session
Larry Plank

Larry R. Plank, Ed.S., is the Director of Science, Technology, Engineering and Mathematics Education for Hillsborough County Public Schools, in Tampa, FL, the 8th largest school district in the United States. Mr. Plank began his post-secondary education at Michigan State University, earned a Bachelor's degree in Biological Sciences from Florida State University in 1997, and Master's (Biological Sciences) and Specialist's degrees (Educational Leadership) from the University of South Florida in 2000 and 2006, respectively.

He currently serves on the Professional Development Committee of the National Science Education Leadership Association (NSELA), the Florida Aquarium Board of Directors, and the Museum of Science & Industry (MOSI) Board of Directors in Tampa, FL. He is a liaison to the Office of Mathematics and Science at the Florida Department of Education, and has worked with Pearson and FDOE to develop the next generation of science assessments. He directs over 15 STEM-related educational projects in Tampa Bay area, with funding from the National Science Foundation, NASA, NOAA, and the Helios Education Foundation, totaling over of $10 million. Mr. Plank also sits on the Executive Committee of the Coastal Areas Climate Change Education (CACCE) partnership, a cooperative endeavor with the University of South Florida, the University of Puerto Rico and the Florida Aquarium.

See & Share Session Speakers

Pam Caffery
Supervisor, Middle School Science

Pam Caffery earned her Bachelor's degree from Texas Tech University in Secondary Education and Master's degree from Centenary College of Louisiana. After 9 years in middle and high school science classrooms, Ms. Caffery was promoted to the Education Coordinator's for the Caddo-Bossier Partnership with SciPort Science Center. Since her move to Florida, Pam Caffery has taught middle school science and Physical Science Honors, and has served on many district committees as a teacher and then the District Resource Teacher for Title I schools. Currently Ms. Caffery is the science supervisor for middle school science where she oversees the science and research electives in 46 schools.

Ms. Caffery has served the district as a content trainer for many years. She has also presented at several conferences for the Florida Association of Science Supervisors, the Louisiana Science Teachers Association Conference, the Florida Association of Science Teachers, and the National Science Teachers Association. Her current work involves presentations on the innovative approach that implements the Common Core Standards into the practice of middle school science and engineering. This initiative utilizes both the 5E instructional design and several key literacy programs, like the Literacy Design Collaborative to build engaging lessons.

Academy Presenters

Michele Detwiler
On The Ground Academic Couch
Middle School Science

Michele Detwiler is the Science "On-the-Ground" Academic Coach for the Title 1 Focus Middle Schools in Hillsborough County. Ms. Detwiler earned a BA in Secondary Science Education from the University of South Florida and a MEd in Curriculum and Instruction from the American College of Education. She has taught all levels of middle school science in both Polk and Hillsborough counties. She has served as Subject Area Leader (SAL).

She was award a PRISM Teacher of Excellence Award as well as school recognition for her dedication to student achievement. She presents many science related workshops throughout the district and has presented nationally at the National Science Teachers Association Conference for the past four years. Her present position allows her to continue to impact student learning in science by working directly with teachers to effect necessary positive changes in science education.

Hannah Graziano
Science Coach, Leto High

Hannah Graziano has spent the last 2 years as a Mentor Evaluator for Hillsborough County as part of the EET initiative. Prior to mentoring, Mrs. Graziano spent 6 years teaching Advanced Placement and Honors Biology. At the district level, Hannah has been writing Biology curriculum for many years and facilitating trainings for other science teachers in the district. Mrs Graziano also conducts district trainings for Hillsborough County's Teacher Induction Program. Her next role as science coach will allow her to impact student achievement specifically in the science classroom by promoting best practices to increase science literacy.
Hannah earned her Bachelor's Degree in Biology from the University of Rhode Island.

Academy Presenters

Nicole Jacquay
District Resource Teacher, Title I
Middle School Science

Nicole Jacquay is the District Resource Teacher for Title 1 Middle Schools in Hillsborough County. Ms. Jacquay has earned a BA and a MEd from the University of South Florida in Secondary Science Education. She is currently working on her Ph.D. course work at the University of South Florida and has been employed as a graduate assistant with USF while assisting on a planning grant to develop a course of study specific to preparing pre-service teachers for Middle School STEM education.

Ms. Jacquay has written and been awarded several grants to purchase technology for the science classroom and has supported teachers in the inclusion of technology in their middle school science classrooms. She was recognized as a Hillsborough County Teacher of the Year in 2010 and as a National Teacher of the Year from Brighthouse Networks. She has taught all levels of middle school science in Pinellas and Hillsborough Counties, has served as a Peer Evaluator with the EET Initiative, and as a district trainer and independent consultant for the EET Evaluation Tool. Her goal is to lead educational change and empower teachers to promote scientific literacy in all students so that they are capable of engaging in public discourse about science and making informed decisions regarding science-related personal and societal issues.

Academy Presenters

Mariel Milano
STEM Coordinator
Orange County Public Schools

Mariel Milano is responsible for the development and implementation of a three-year STEM initiative and the National Science Foundation-Promoting Science in English language Learners (P-SELL) grant. She is also a member of the Next Generation Science Standards (NGSS) writing team.

Ms. Milano has recently begun the implementation of a pilot pre-physics STEM kindergarten program within her district. Ms. Milano has developed STEM curricula for OCPS which is utilized within the district as well as the state. Ms. Milano also currently serves on the Florida Center for Research in Science, Technology, Engineering and Mathematics (FCR-STEM) Florida STEM Strategic Planning Committee as part of the K–12 education goal team.

Prior to joining the district curriculum team, Ms. Milano was a science resource teacher for gifted students, curriculum developer with the Orlando Science Center, and a Teacher-in-Residence through a partnership with Purdue University's INSPIRE program. In these positions, she developed and provided curriculum and professional development in the areas of engineering, forensic science, epidemiology, and health sciences. Ms. Milano received a Bachelor's of Science in Early Childhood Education from the University of Central Florida, and has completed graduate coursework in K–8 Mathematics and Science Education at the University of Central Florida. She holds K-12 endorsements from the Florida Department of Education in Gifted Education, Reading, and ESOL Education.

Ayana Lucas
Math Coach/SAL
McLane Middle

Ayana earned her Bachelor's degree from the University of South Florida in Mathematics Education. As a result of teaching math at a Title 1 school for four years, with a unique population of students, she furthered her education and received her Master's Degree in Rehabilitation and Mental Health Counseling from the University of South Florida. During this time, Ayana had the privilege to work with adjudicated youth for two years as a Mental Health Therapist, in which motivated her to return to teaching at risk youth in Hillsborough County. As an educator, Ayana has served as a math teacher, Subject Area Leader and Math Coach during her career in Hillsborough. Her educational career has provided her with opportunities to work as a National SpringBoard Trainer for College Board, District SpringBoard Trainer, District Math Trainer and District Kagan Trainer. She also has enjoyed the experience of working on curriculum writing teams, professional development writing teams and currently working on her certification in STEM through the Endeavor Academy. Ayana's enthusiasm and passion for encouraging our youth to advance their education fuels her to push her limits to ensure that underachieving youth have the opportunity to receive a quality education while exposing them to a world that they never imagined.

Academy Presenters

Danni Resnick
Supervisor, Measuring Effective Teaching Project
Danni Resnick graduated from the University of Florida in 2001 with a Bachelor's degree in Business Administration/Marketing and also attended the University of South Florida and received a Master's degree in Teaching Middle School Math in 2006. She is currently a Supervisor for Hillsborough County Public Schools and spent the last four years managing a research project led by the Bill and Melinda Gates Foundation on effective teaching. Prior to this position she was a mathematics district resource teacher for the county working at the middle and high school levels and also spent four years teaching middle school math.

Tammy Rush
Supervisor, Middle School Mathematics

Tammy Rush graduated from the University of Central Florida in 1989 with a Bachelor's degree in Mathematics Education and then attended National-Louis University and received her Master's degree in Curriculum and Instruction in Interdisciplinary Studies. She is currently the Middle School Mathematics Supervisor for Hillsborough County Public Schools. Prior to this appointment, she held many positions at the school district as a mathematics instructor at the middle and high school levels, a mathematics department head and subject area leader, district level trainer for mathematics instruction and has served as a mentor for new and experienced mathematics teachers as well as those seeking alternative certification. In addition, she led and coached Math League and Math Counts teams at school sites. She was named Teacher of the Year at Dowdell Middle School while teaching there in 1995. In addition, she served four years as a supervisor in Professional Development working with K-12 teachers and administrators in training related to pedagogy.

Professional contributions include serving as the live On-Air Talent for the "Math Homework Hotline" television show in collaboration with Hillsborough County Public Schools and broadcast on the Tampa Bay Education Channel. Additionally, she served as a contributor to the National Council of Teachers of Mathematics, "Empowering the Mentor of the Beginning Mathematics Teacher" resource book and has been a program advisor and reviewer for textbook publishing companies. In collaboration with the University of South Florida, she is involved with multiple mathematics and Science Technology Engineering and Mathematics (STEM) projects related to teacher growth and developing new teachers to enter the field of mathematics education.

Academy Presenters

Dr. Nancy Ruzycki
Senior Lecturer, Director of Undergraduate Laboratories
Department of Materials Science and Engineering
University of Florida
Nancy holds a BS in Chemistry and Education, as well as a Masters and PhD in Physics. She has worked as a research scientist for University and Government Laboratories in addition to work with school districts in Georgia, Louisiana and Washington.

Nancy's area of expertise is creating STEM programs for under-served students in urban schools to support core standards. One Seattle program, SMARTGirls (Science and Math at the right time for Girls) has won national awards and recognition. Additionally, Nancy hold National Board for Professional Teaching Standards Certification in Physics.

Dr. Troy Suarez
On The Ground Coach, High School Science

Troy Suarez, PhD. is a Robert Noyce Master Teacher Fellow and the Secondary Science Academic "On the Ground" coach for Hillsborough County. He is a past recipient of the PRISM Teacher of Promise for Hillsborough County Secondary Science and the Lignell Teacher of the Year Award. Dr. Suarez earned his B.S. from the University of Florida and his Ph.D. from Virginia Commonwealth University. After completing a 2-year NIH, NRSA Postdoctoral Fellowship with the Center for AIDS Intervention Research at the Medical College of Wisconsin and a year with the National Center for HIV, STD, and TB Prevention at the Centers for Disease Control and Prevention, Dr. Suarez entered into the pharmaceutical industry to conduct further research in HIV/AIDS. He has authored and coauthored several articles on HIV and AIDS related topics and has served as a Board member and peer educator for multiple AIDS Service Organizations. Dr. Suarez transitioned into teaching in 2007.

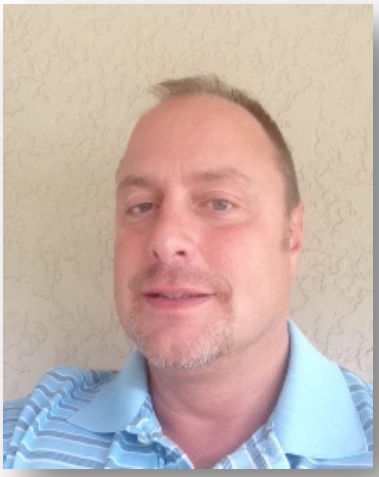
Other See & Share Presenters:

John Baskett, Science Teacher, Webb Middle School; **Lisa Byrd**, Science Teacher, Adams Middle School; **Desiree Daerr**, Mathematics Teacher, Walker Middle School; **Rodger Lawson**, Science Subject Area Leader, Bartels Middle School; **Vicki Viverito**, Mathematics District Resource Teacher, HCPS; **Yariel Vignau**, STEM Teacher, Webb Middle School.

Academy Presenters

Special Session Speakers

Dr. David Reese
Defined STEM



Dr. Reese has spent over 20 years in education as a science teacher, curriculum and instruction specialist and central office administrator. His teaching experiences involved students in grades 7-12 living in a rural community, as well as students from urban areas serving time in a state juvenile detention facility. These students have helped create a personal belief in the value of student engagement through relevant experiential learning connecting with the student and the surrounding environment. For the past fifteen years, he has served as an adjunct faculty member in the Master's and Doctoral programs within the Wilkes University School of Education. During this time, Dr. Reese specialized in Curriculum and Instruction and Educational Leadership.

Dave has served in several educational leadership positions. He is a Past President of the Pennsylvania State Team for Math and Science, worked on numerous curriculum projects with the Pennsylvania Department of Education and has consulted with the NASA Goddard Space Flight Education office on local and state educational projects. He has presented at numerous state, national and international conferences on various topics in education. Many of his presentations have been on the efficacy of performance based assessment and project-based learning in the teaching-learning environment.

Dr. David Reese is a curriculum consultant for Defined STEM. He has been conducting professional learning experiences for educators and school systems throughout the United States, as well as in Turkey and Oman. These experiences are designed to make educators feel comfortable interacting with the web resource. Additionally, the professional learning helps educators connect classroom pedagogy including standards-based teaching and learning, performance assessment, project-based learning, and differentiated instruction to engage and motivate all learners.

Academy Presenters

Corey J. Peloquin
Project Manager, Explore Learning

A project manager for award-winning publishers of educational software, Corey J. Peloquin began working with ExploreLearning in 2011. Corey's education includes a Bachelor of Science from Eckerd College, a Masters Degree in Administration/Supervision Educational Leadership from National Louis University, and STEM certification with action research designation from the Teacher's College of Columbia University in partnership with NASA. In 2005, Corey began his career teaching middle school and high school science. During this time he was recognized as the School District of Hillsborough County's Science Teacher of the Year, PRISM Award of Excellence in Science Teaching, and was nominated for the United States Presidential Award of Excellence in Science Teaching for the State of Florida. In 2010, Corey left the classroom to become involved in cutting edge education reform. As part of the Bill & Melinda Gates Foundation's Empowering Effective Teachers grant, Corey became a new teacher mentor supporting 22 high school teachers. Through mentoring, coaching, customized embedded professional development, and formal observation/evaluation Corey supported teachers to accelerate their professional growth and teaching practice. Corey also has extensive experience with school improvement writing and progress monitoring, curriculum design, and teacher evaluation protocols. Corey is a member of the National Science Teachers Association (NSTA), the International Society for Technology in Education (ISTE), and Florida Association of Science Teachers (FAST).

As Project Manager of ExploreLearning's Professional Development Division, Corey provides project management services and teacher professional development to the eighth largest school district in the nation. Corey is responsible for designing an annual implementation plan with school system leaders and executing the plan for successful implementation of the product – ExploreLearning Gizmos. Corey designs and delivers a variety of site-based professional development opportunities for teachers year-round including collaborative lesson planning, classroom modeling, formal observations with feedback, and customized professional development to meet school requests/needs. Corey also delivers district level professional development and coordinates curriculum alignment efforts in addition to generating and reviewing usage reports with key school system stakeholders.

Corey has shared his experience on both a national and state level at numerous conferences, particularly those focusing on science and technology, and through publication.

Other Special Session Presenters

Sherri Andrews, Sales, Bio Rad

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Academy Documents

Academy Materials:

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