

EQuIPD Project Newsletter

September- December 2019

PD Dates to Remember

January 11, 2020: Robert E. Willis Elementary School, 14705 The Masters Ave., Lakewood Ranch, FL 34202

February 8, 2020: Fulton-Holland Educational Services Center, 3300 Forest Hill Blvd., West Palm Beach, FL, Thurber B, C, D, Cafeteria, Rear of Cafeteria

February 22, 2020: Colson Elementary, 1520 Lakeview Ave., Seffner, FL 33584.

January 25, 2020: HEC Facility, Training Rooms A & B 1096 US Hwy 27 N., Lake Placid, FL.

March 7, 2020: Rooms HO123 and HO124, Health Sciences Bldg., St. Johns River State College, 2990 College Dr., St. Augustine, FL 32084



Palm Beach County
Leigh Arnold, Krista Dulaney

The past two months our EQuIPD Intervention teachers have been busy going on their teacher field trips. These field trips have provided teachers with global issues, reef conservation, terminal velocity, sensors and probes in different careers, and much more! *The Wishing Tree* field trip is where teachers went behind the scenes and saw how Symmetry Lab created the 100,000 LED tree. (row one images) A variety of engineers from mechanical to computer engineers came together to design and create this tree, which is one of five in the world. The lights on the leaves were programmed using technology like the Raspberry Pi and Arduino. The lighting algorithm is inspired by the fluid behavior of South Florida's inherent weather systems. At *The Reef Institute* (row two images) teachers learned about their large efforts to rehabilitate and restore our local coral reefs. They got to see first-hand how the Reef Institute uses sensors to identify the water's temperature and salinity. Next, our teachers are working on including new technology into their instruction like sensors, probes, Scratch (Jr) and building their authentic inquiry lessons, while attending more engaging field trips across the county.

Payments for Teachers

University of Florida will now take our payment spreadsheets and create PO's for Districts.

We will send District Liaisons the PO for the District with payment for the districts to disburse to teachers.

We ask that you let UF know what payroll period the disbursement is made so that we can inform teachers.

**Hillsborough County
Angel (Christine) Danger**

Hillsborough EQulPD teachers have been on four field trips and have learned a lot about jobs and careers available in Tampa Bay.



Seal Dynamics makes parts for airplanes. They use sensors and 3D printing to make perfect and safe parts.

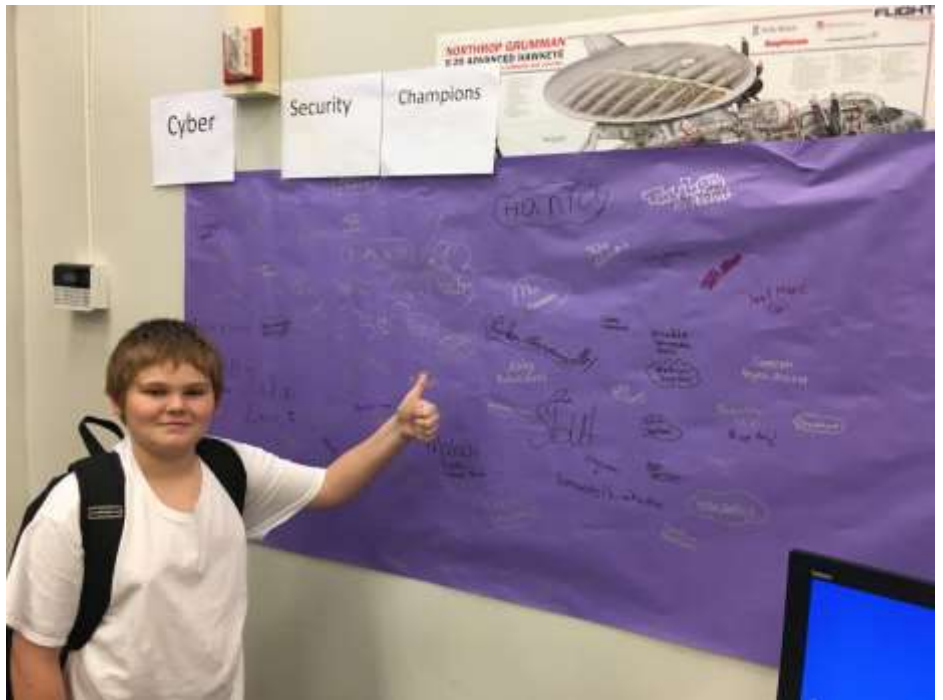
Tampa Bay Steel showed us the technology they use to make precision cuts and folds in steel using computer programming and lasers.



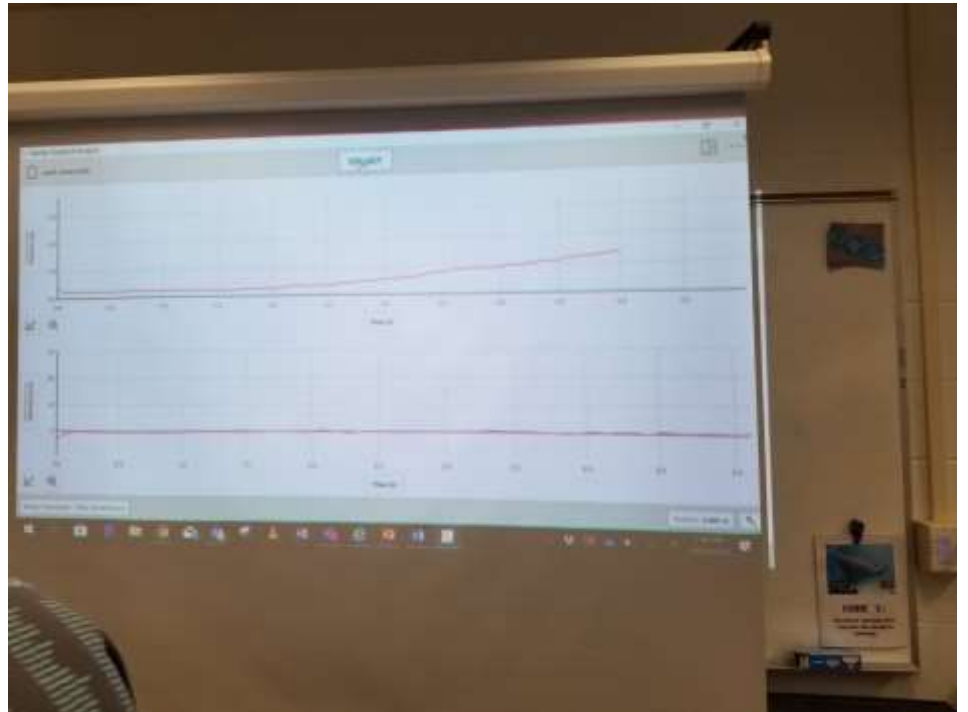
Focus Audits protects banks from hackers. They showed us how they keep our money safe.

St. Johns County
Xavier Rozas

CTE instructor Bernie Huffman from the UF STEM Certified Sebastian Middle School celebrates his students' Microsoft Office and Cyber Security certification achievements with a banner signed by proud scholars. Congratulations to all the Sebastian Scholars and their dedicated instructor, Mr. Huffman! 21st century teaching and learning and digital literacies are at the core of the EQuIPD Program and critical to the development of a strong and vibrant skilled workforce in Florida and across the global marketplace.



Tom Barrett and his Honors Physical Science Scholars at the Roger Gamble Middle School are putting the EQuIPD Project motion sensor technology through the paces. Student engagement, rigorous instruction and authentic project-based learning are key components of this popular high school level science class. Through meaningful collaboration and inquiry, Mr. Barrett's students consistently exceed their own expectations and are afforded the opportunity to bring the teaching and learning of science concepts to life through hands-on, student led applications...and the lunch bell hasn't even rung yet!



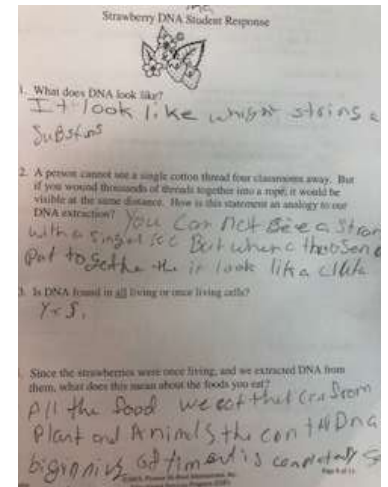
Community engagement and industry partners and stakeholders are vital to the development of strong schools and in our opinion local St. Augustine BBQ favorite Smokin D's BBQ put its money where *our* mouths are by providing EQuIPD teachers with an excellent lunch at no charge. Nothing like a satisfying pile of steaming hot BBQ to power our teachers and coaches through a powerhouse 7-hour Saturday training on Model Construction, higher order thinking through strategic questioning and Scratch Jr. Eating in class is permitted for our overachievers going the distance for St. Johns students.

Sarasota County
Jared Carter

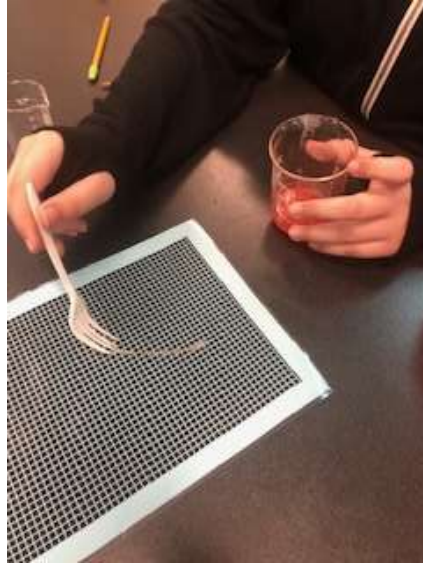
In Ms. Irene Moksha's 7th grade Life Science Students had a blast learning, seeing and touching actual DNA strands in this Strawberry DNA Extraction Lab.



Lab Supplies. Each group took one of everything, plus goggles for each at their group



The Mashed strawberries in the extraction substance of dish soap, salt and water- mashing the strawberry breaks down the cell wall. The extraction buffer helps release DNA from surrounding cell components



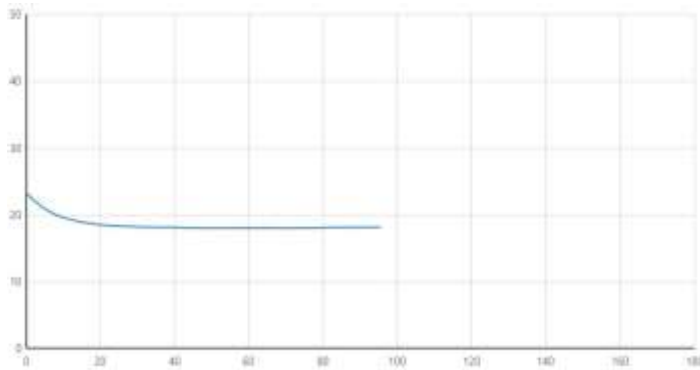
Extracting DNA - Students compared using warm isopropyl alcohol versus ice cold isopropyl alcohol to compare amounts of DNA extracted vs dissolved



Wyatt, Cannon and Zane pulling out the DNA with tweezers.



Charity looks closely as the alcohol solute is added to the filtrate to precipitate DNA out of the solution.



Vernier sensors are complements of University of Florida grant EQUiPD program. This is a print-out of one of the student's graphs using the sensors.

EQUiPD Teacher Spotlight

Seleka Kerr and Angel (Christine) Danger

Frank Traina is a CTE teacher at Armwood High School. His class is making real world connections thanks to his innovative approach to teaching. His students learn to use several graphic design programs then apply their learning by designing cool Armwood T-shirts and other merchandise which they sell in the school cafeteria. Mr. Traina wrote grants to acquire the high-tech shirt printer, tablets for ordering, shirts, signage, and everything else they needed to open their in-school store. They are also learning about running a business and the need to set a budget, track profit and loss, and order materials. The EQUiPD teachers visited Creative Sign Designs Inc. where we were told that a student who could design shirts like his students can are sought after employees for their business.

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Fifth grade teacher **Teresa Buckman** at Carrollwood Elementary is using technology such as sensors and probeware to help her students understand energy through a sustainability themed curriculum. The real-world application of energy and sustainability has her students enthusiastically investigating and learning. The use of technology makes their learning more understandable and helps them to make connections between sources of energy and how energy is transferred.

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A graduate of the UF College of Education **Amy Cloutier** is a third grade teacher at Reddick Elementary School in Hillsborough County. Her classroom epitomizes inquiry as a driver for student learning. Student wondering led to the creation of a Wonder Wall in her classroom where students post their wonderings on this computer so that neither questions nor enthusiasm are lost because of the question being "off topic". Those questions that are pink are those that were chosen to explore in labs and the questions were answered.



Currently she's using technology in her classroom featuring the EQuIPD temperature probes with her students; she's teaching them how to analyze the data collected in their labs. The students are making real world connections to things like the impact of hot and cold water when it's mixed with other substances like salt and sugar.

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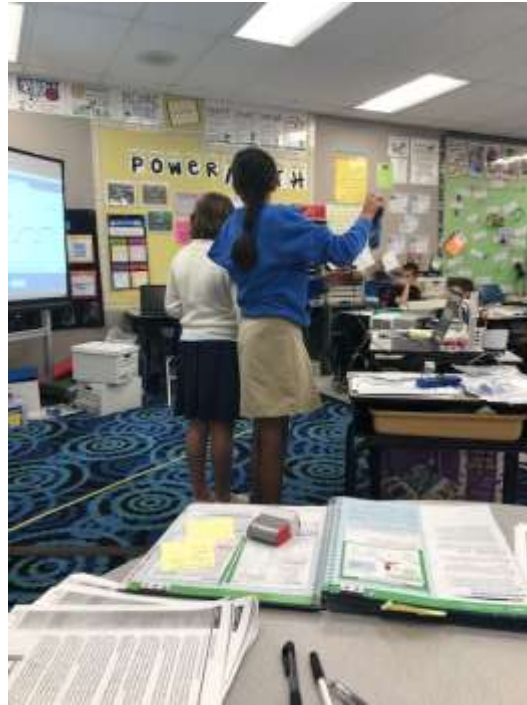
Maria Israel is a 5th grade teacher in Manatee County. To teach students how to communicate in Scientific ways she has attached to both the student desks and to her own the sentence starters we've provided the teachers as a tool in this grant. She's seen improvement in how they're speaking and writing in their journals. The beauty of this tool is it can be used across content areas and the students are making those same connections.



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Lynn Reagin is a fifth grade teacher at Fish Hawk Creek Elementary in Hillsborough County and a twenty year veteran in the teaching profession.

She's implementing technology in her classroom with the EQuIPD temperature probes teaching the students to capture and then graph/analyze the data their



collecting. This pair of girls finished their work first and wanted to share their findings with their classmates. Note the plot to the left in the photo.

EQuIPD Grant News

As of January 1, 2020, **Dr. Butler has retired** from the grant. Dr. Butler was instrumental in supporting the grant program and she will be missed in her much deserved retirement. We have hired an accounting student who will work on the paperwork and tracking for the grant which will help us with the deliverables. We will introduce her in the next news letter. We will be hiring a post-doc and a grant coordinator in the next few months to help out with the grant. Contact Dr. Ruzycski with any questions or concerns.

The EQuIPD website is up and is currently being built out. There will be a page for each district describing the district and hosting links to your district website. We are also posting the news letter, some general grant material and information you can share with others. EQuIPD.mse.ufl.edu

Broader Dissemination

The EQuIPD grant will be presented in an oral talk at the AAPT (American Association of Physics Teachers) at the January 2020 meeting in Orlando. <https://www.aapt.org/Conferences/wm2020/index.cfm>

All of our coaches have submitted abstracts to give talks at the summer NSTA STEM Forum & Expo in Louisville in July. <https://www.nsta.org/conferences/stem.aspx>

Seleka Kerr will be attending a conference on *Instructional Coaching for Equity* from The National Equity Project (<https://nationalequityproject.org/>) in Oakland, California on March 19, 2020.

Our coaches are available to do PD trainings for your coaches and teachers during the school year for grant related projects and content. As long as we do not train control teachers, we can do trainings for/with your district.

Texas Instruments is working as a partner with the grant and has been working to create models and systems maps for core content in mathematics to align with the work of the grant!

