



## Farewell Class of 2015

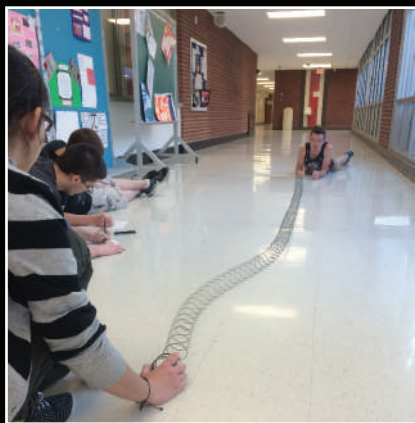


“You have brains in your head. You have feet in your shoes.  
 You can steer yourself any direction you choose.  
 You’re on your own. And you know what you know.  
 And YOU are the one who’ll decide where to go...”  
 — Dr. Seuss, Oh, The Places You’ll Go!

## In the Classroom



**Chemistry:**  
Veronica Marougail '17 (SHHS) continues to develop her research skills. Veronica and her group synthesized aspirin and used intensive properties to analyze its purity. Data was processed in IDS class and analyzed in Mathematics classes.



**Physics:**  
Using springs, students investigate the properties of wave lengths. Groups compare wave length velocity and frequency of different waves, and look for interference and changes in those properties.

## Digital Divas

MMSTC's digital divas headed to Eastern Michigan for its annual Digital Divas Conference. The goal of this conference is to get more girls interested in and exposed to careers in technology, programming, and engineering.

Powerful female speakers began the conference and discussed how they got started in their careers.

Next, students traveled to different classrooms around the campus of Eastern Michigan University and learned about everything from drone helicopters, to electrical circuits, to programming, to creating web pages, to cyber-safety in small group breakout sessions.

Who knows...Maybe one of MMSTC's very own Digital Divas will keynote a future DD conference!

Jordan Olszewski (SLHS) takes apart and re-assembles a computer's hard drive.



Alex Costanzo (LSHS) and Rebekah Kettler (LSHS) learn about electric circuits in one of their breakout sessions.



MMSTC's very own Digital Divas



# MMSTC Students Shine

## in Meridian Stories Competition

Meridian Stories is a series of national digital storytelling competitions that MMSTC has been participating in for the past three years.

This year, topics included creating a documentary on a newly-evolved creature and producing a sales pitch for a super hero who can save the world with special mathematic powers.

MMSTC students put their statistical, biological, technological and creative skills to use as they worked in groups to create their video story.

MMSTC students competed with students from a number of states, and this year was well-represented with a number of winning entries, including Sade Lemons, Haley Le, and Madison Kirby with their story of Lemon Squeezy; and John Estapa, Sam Tracy, and Nick Freschette with their story of the amazing powers of Calculus. (Other winners are pictured)



**First Place: Create-a-Creature**  
**Anna Jackson '18 (SLHS),**  
**Tommy Kettler '18 (LSHS), and**  
**Evan Tarian '18 (LSHS)**



**First Place: Warren Roads**  
**Community Fact or Fiction.**  
**Trent Szczepaniak, Kishwar**  
**Basith, Jame VanWagnenm and**  
**Thanvir Ahmed**



**Second Place: Do or Donut**  
**Community Fact or Fiction**  
**Emily Vo, Maria Gallo, Bridgette**  
**Wolf, Madeline Manual**



**Third Place: Alien Encounters**  
**Community Fact or Fiction**  
**Raymond Ciesliski, Daniel**  
**Pisarski, Julius Estrope and**  
**Michael LaBarbera**

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### Class Portraits... MMSTC-Style



# AP Calculus Oral Presentations

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Once again, seniors have an opportunity to show off their knowledge in AP Calculus. Professionals from the field and MMSTC Alumni conduct interviews and test student understanding.

Students dress in MMSTC-style presentation attire and utilize the skills they have worked so hard to develop over the past four years.

Stressful? Intense? You bet! But, our students were definitely up to the challenge!

“The interview is a lot easier than you expect to be as you walk in. The judges make things easy on you and are very personable. Even if you get caught up in the moment and are like ‘Yes, I’ve got this!’ and make a mistake, they guide you to see your mistake. The ten minutes are gone before you even realize it. All you have to do is relax and let calculus flow,” said **Alex Feleo ‘15 (LSHS)**.

“I was most definitely nervous. I didn’t become more comfortable as time went on. I knew what I was doing and, personally, I think the presentation went great. The judges were very nice, but it was a bit nerve wrecking. Overall, I’d say it was a great experience though because their goal isn’t to humiliate or fail anyone, but to help everyone out” said **Syndi Jordan ‘15 (WMHS)**.

“I was nervous at first, but as the presentation went on, I became one with my paper and became comfortable speaking about it” said **Mahir Chowdhury ‘15 (WMHS)**.



**Ryan Gohlke (SHHS) presenting to judges.**



**Alex Feleo (LVHS) post-interview**



**Above, Sydni Jordan, Mahir Chowdhury, and Daniel Havern (WMHS) relieved after interviews were finished!**



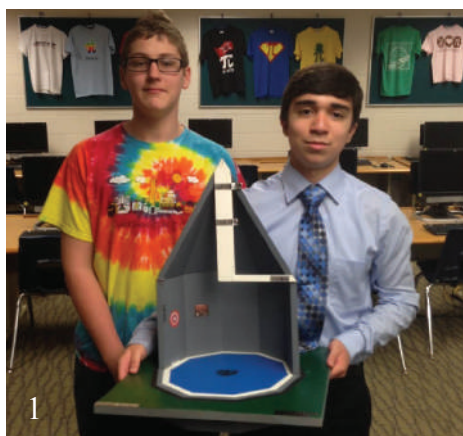
## MMSTC Does **Arduinos**

Mr. Supal did it again! Through the EPIC program, Purdue University, and the persistence and engineering-know-how of Mr. Supal, MMSTC was given 10 arduinos for students to use in our classrooms. EPIC is an outreach program that partners universities and teachers to develop specialized STEM curriculum. Mr. Supal asked for controlled robots that could utilize the programming skills he was teaching in his classes, and students at Purdue University delivered! Thank you Purdue University Engineering Students, EPIC, and Mr. Supal for another awesome opportunity and resource for MMSTC.



# ENVISION, ENGINEER, BUILD TOWERS

*The Tradition Lives On!*



The freshman class recently finished up a right of passage here at the MMSTC... the tower project.

The project started many moons ago in a land far, far away when GAT had an actual textbook! Over time the project has morphed into over 100 calculations, as well as a three dimensional model made to scale!

This now partner project, for some procrastinating pairs is their first “all-nighter” as they frantically cut and re-cut pieces of paper to form the appropriate ceiling or wall.

The project reviews over 16 different CCSS’s (Common Core State Standards for Mathematics) and has become an effective, if time consuming, review project for volume and surface area of different polygons in geometry.

## Top Towers

1. Carsten Gregerson (WWT) and Richard Johnson (FHS)
2. Sara Schultz (SHHS) and Johanna Lund (FHS)
3. Jennifer Le (SHHS) and Jordan Olszewski (SLHS)

## The Carnival Project

An exciting and well-liked project in the FST class is the Carnival Project where students design, create, play and analyze a carnival-style game for the purpose of fundraising. Students work in groups to apply their knowledge of probability to produce a fun, interactive game that is designed NOT to be fair!

However, the game must have enough of a chance of winning to draw customers. Students not only create the game but write a paper analyzing the game with both theoretical and experimental probabilities.

This year’s games raised the bar in terms of theme and construction. Fellow sophomores as well as sixth and seventh grade MS2TC students had the opportunity to ‘test’ the games and offer their input to game designers. Based on player feedback, the written paper, and the game itself, one game from each section was chosen to be ‘purchased’ by the Kincaid Dewey Carnival Company. Congratulations to the following teams!

### **A Night in Vegas:**

Merna Sana (WMHS), Paige Redlin (LSHS), Mario Nona (SHHS)

### **Stop, Drop & Spin!**

Frosilda Pushani (SHHS),  
Rachelle Buna (SHHS), Julie  
Pisarski (SHHS)

### **That’s All Yolks!**

Joshua Ahearn (CHS), Aleksandra  
Gryko (CHS), Geselle Tablada  
(WMMS)



Andrew Rouditchenko (WMHS)  
pictured with his mother.  
Congratulations Andrew!

## *The Detroit News* **Outstanding High School Graduate Award**

Andrew Rouditchenko from Warren Mott High School and his proud Mother attended the 2015 Outstanding High School Graduate Awards Banquet May 20th at the Dearborn Inn. Only 24 students in the state of Michigan were honored in eleven different categories that evening. Andrew received the Science Award and a scholarship for \$1000 from the Fifth Third Bank. His quote "I approach each task with diligence, curiosity and patience" describes his mind set that has allowed him to be the successful student he was in high school and will continue to be in college as he attends MIT next year. This banquet was hosted by the Detroit News and CATCH, Sparky Anderson's Charity for Children.

## **2015 Environmental Management Achievement Award**

Congratulations  
Nick Giallombardo (CHS) and  
Nathan Nunez (CHS)



Congratulations Lindsey Rejc!

## **National Center for Women in Technology Award**

NCWIT Nation Center for Women in Technogy

Lindsey won this award because she shows considerable interest in computer programming, specifically programming involved in game development. She has a logical thought process, so organizing code and writing is easy for her. Additionally, she is very good with art and story-writing, and wants a career that would combine both her passions, coding and art, so that she can spend her life doing something she loves and that others would appreciate. As game design and programming combines both aspects, it is the perfect occupation for her.



# Senior Exit Interviews

After four years of compiling credentials, awards, and experience, seniors had the opportunity to present their final portfolios (either digital or in a binder) to a panel of professionals.

Final portfolios are compiled over four years in IDS classes. The compilations include vision statements; 1,5, and 10 year goals; work samples from both MMSTC classes and home school classes; letters of reference; test scores; transcripts; community service, and extra-curricular activities. During the interview, students must cite evidence from their portfolios to support claims of accomplishments or future endeavors.

Many of our volunteers once experienced this exit interview process themselves back when they were seniors at MMSTC. Other volunteers graciously donated their time and knowledge to help our MMSTC seniors gain valuable experience in the interview process.

Thank you to all of the volunteers from our community who help MMSTC make learning real and valuable for our students.



Students pictured with our gracious community volunteers:

1. Zach Hoisington (SHHS)
2. Andrew Damiani (SLHS)
3. Kelly Rayner (LSHS)
4. Nate Nunez (CHS)

## In the Classroom



**GAT / IDS:** Elisa Monteiro (WMHS) and Daniella Toma (WMHS) use SketchUp and Geometer's SketchPad in IDS class to make their scaled, architected TOWER drawings, then moved onto the actual construction phase.



**GAT:**  
In the middle of Tower Projects, Transformations, and Presentations, 9th graders decided to celebrate Cinco De Mayo on March 27th. (Stress reliever?) Richard Johnson (FHS) brought in his grandmother's homemade Tamales right from Mexico for the occasion. Yummm!

# TRIG★STAR

State TRIGSTAR Contest

## MMSTC Sophomores Shine!

How is trigonometry used in the real world? What professions use trigonometry in their fields?

The Sophomore class of 2017 got a glimpse of the answers to these questions this spring through the efforts of Mr. Craig Amey, a professional surveyor at Anderson, Eckstein, and Westrick, Inc. and a Board Member of the Michigan Society of Professional Surveyors. Mr. Amey talked with students about the career opportunities in surveying and sponsored the annual TRIGSTAR contest.

Mrs. Kincaid Dewey's sophomore FST students prepared for and took this trigonometry contest in early May. Unlike



other contests, winners are not just determined by the highest score, but also the shortest time to get that score. The final problem of the contest is a real test of problem solving abilities when students are given a scenario similar to those encountered by surveyors in the real world.

This year's participants worked hard to prepare by completing previous year's contests and discussing problem solving and calculator strategies in class. Students learn to answer questions in the correct format and that it's an all-or-nothing situation – there is NO partial credit!

At the local (school) level, the top four finishers were: **Tanner**

**Allen (Cousino HS), Daniel Hallam (Lakeview HS), Arjun Muralidharan (SHHS) and Madeline Burgin (Mott HS).**

*Congratulations on their hard work!*

In addition, we are proud to announce that **Tanner Allen (Cousino HS)** who earned a perfect score of 100 is the **SECOND PLACE** winner at the state level and **Daniel Hallam (Lakeview HS)** placed **THIRD** overall! Over 1,000 students take part in this contest in Michigan each year. For his efforts, **Tanner** earned a \$500 cash prize and **Daniel** earned a \$250 cash prize!



## ***Did You Know...***

MMSTC's online apparel store is now open and ready for business. Order t-shirts, hoodies, hats, bags, even blankets! Check it out! MMSTC items make GREAT gifts!! Go to: [http://mmstc.qbstores.com/all\\_products/all-products.html](http://mmstc.qbstores.com/all_products/all-products.html) or use the code to the left. There is also a link on our MMSTC Homepage!



# 3 - 2 - 1 LIFTOFF!

## Tennis Ball Launch in Senior Physics

By Alex Costanzo (Lake Shore)

The AP Physics class was having a lot of fun the last two weeks of school making sling shots and launching tennis balls into the field for an epic competition. Students used the design process to create their devices.

The students had to figure out what to use to hold the ball and Mr. McMillan supplied the rubber band. They then battled for first place with different smaller competitions which include who can launch their ball the

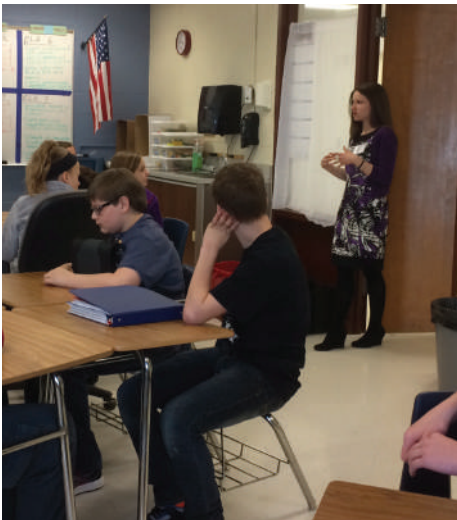
farthest, the closest to a target of McMillan's choosing, the highest, and the closest to a target of their choosing.

It was a lot of fun and a real test of all we learned in class!

Congratulations to the Overall Winners:

**Alex Costanzo (Lake Shore), Emily Liu (Clintondale), KJ Buiteweg (Cousino) and Caroline Jankowski (Lake Shore)**

## The MMSTC Alumni 2nd Annual Career Day



Alumni from all different careers came in and talked to MMSTC students about both STEM and non-STEM careers. Careers included everything from Physicians Assistants, to Neuropsychology, to Engineering, to Programming, to Law. **Chelsea Parman**, spoke to classes about schooling and her love of performing surgeries. We are thankful that so many MMSTC alumni give back to the MMSTC family.

**Thank You Alumni!**

## In the Classroom



### PRECALCULUS:

Juniors studied conic sections and constructed Dandelin Spheres to prove that the foci of the ellipse, hyperbola, and parabola are where the spheres intersect the cone. How cool is that! **Bailey Abney (FHS), Bridgette Wolf (FHS), Emily Vo (WMHS), Kalie Tomlinson (SHHS), and Emily Chapman (WWT)** show off their creation.



### IDS:

After planning senior dinner, working on the newsletter, organizing the composite, and finishing the yardisk, **Lindsay Fricano (LSHS), Kelly Rayner (LSHS), and Christina Wark (LSHS)** take a breather and enjoy a well-deserved sense of accomplishment. Great job team! You worked hard to preserve the memories of this amazing year. Thank you!

# MMSTC Travels to The Windy City

By: Brendan Nowakowski (Lake Shore HS)

After months of anticipation, it was finally here! The first ever MMSTC trip to Chicago, Ill! We departed on April first for a three day tour – 33 MMSTC students from all four grades, parent chaperone Mr. Gregersen, Mr. Acre, and Mrs. Kincaid Dewey went on this amazing trip. So many opportunities to learn in the many museums that we visited!

The Museum of Science & Industry was one of the longer stops on the trip, including an Omni-max movie titled, “Journey to Space”. We were free to explore the museum with our friends and see many exciting things, including a German U-Boat submarine that was captured during World War II!

Another stop was the Shedd Aquarium, where you could TOUCH a Lake Sturgeon. We just had to make sure that we were careful with our Lake Sturgeon...(inside joke!) Of course, there were other great exhibits, like the Beluga Whale and the Dolphin calling exhibit, where you could emit sounds through the water to bring the dolphins right up to the glass! Our tour guide Jennifer made sure we bypassed the lines and saw the key sights and sounds of this fantastic city!

We stopped at many famous eating

establishments, including Gino’s East Pizza for original deep dish pizza and the Hard Rock Café. Some other experiences along the way included going to the Lincoln Park Zoo and observing the city at the top of the 103-story Willis Tower at Skydeck, an experience wherein you can literally step out over the city, in a glass case suspended 1,353 feet above the Earth.

Other museums included the Alder Planetarium and the Field Museum of Natural History. A visit to Millennium Park gave photo ops with “The Bean” which held a special fascination with some of our classmates!

While in Chicago, we also made an unexpected stop at Navy Pier, which was a very popular place for all of the shoppers!

At the end of days one and two, the hotel’s beds called our names – we were very busy each day, having more fun than you could imagine.

If you are interested, there is a similar trip April 5th – 7th of 2016, where students and staff will travel to the one and only New York City. Yes, THE New York City! If it is anything like our trip to Chicago, you will NOT want to miss it!





# Talent Night at MMSTC

By: Lindsay Fricano('15, Fraser)

It's time to play the music. It's time to light the lights. It's time to meet the talent at the Talent Show tonight. A bit of a dumb joke? Maybe. But it's the sort of thing that an M.C. like myself appreciates. The 5th Annual MMSTC Talent Night officially was a success. This year marked the loss of many fan favorites due to graduating seniors. But that shouldn't have been a concern for a second. The moment that **Omar Wajeesh (Sterling Heights)** set the tone for the night with his fantastic interpretation of "Cadence" by Anberlin was the second that I knew we pulled off another lovely talent night.

This year, the talents were very diverse. Ranging from stand-up comedy (**Aaron Goudie (Sterling Heights)**), to Broadway style singing and dancing (**Andrew Niedbala (Sterling Heights)**), to song parodies about partner projects (**Lindsey Rejc (Cousino)**), these acts were pure entertainment. For those inclined

to more intellectual pursuits, **Joshua Tran (Sterling Heights)** and his piano playing, **Keegan Laporte (Fraser)** and his spoken word poem, and **Keegan's** return to stage with **Kelly Rayner (Lake Shore)** for a "Conversation" skit all exercised the brain a little. The night concluded in true MMSTC style with the return of the fan favorite dance number. This year was "Uptown Funk" performed by **Trevor Polisuk-Balfour (Cousino)**, **Nathan Williams (Cousino)**, **Tom McCloskey (Cousino)**, **Jack Banick (Cousino)**, and **Winston Balmaceda (Fitzgerald)**.

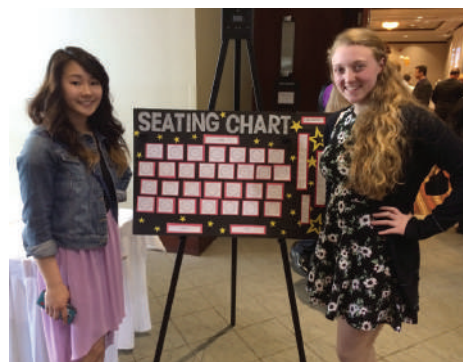
I could just go on and on. MMSTC has such a pool of talent – and not just when it comes to math and science. Each year the students come together for an unforgettable night of showing off some talent. Families and friends alike are entertained and the proceeds go towards adopting an animal at the Sterling Heights Nature Center. What could be better?





# MMSTC Class of 2015 *Senior Dinner*

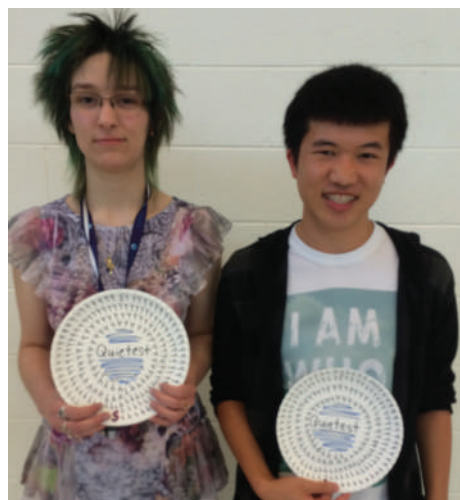
On the evening of Tuesday, April 28 at the Sterling Inn, all MMSTC seniors were recognized for their outstanding academic accomplishments. Friends and family members of each student were there to celebrate the four years of hardwork, dedication and perseverance that each student put forth during their time in this rigorous program. Their efforts seemed to pay off as we listened to the list of prestigious colleges where these students were accepted and often received scholarships from. Schools such as MIT, University of Michigan, Purdue, Michigan State, Reed, The Ohio State University and many others. We are so proud of all of our graduates and wish them the best in their future.





# Senior Breakfast

*Breakfast, Paper Plates, Music, and  
Memories*





# Using Our Powers For Good

## MMSTC Ecology Team Completes Nature Center Partnership

The MMSTC Ecology Team has had a busy second semester! The yearly MMSTC Talent Showcase was once again held and proceeds raised were used to adopt an animal from the Sterling Heights Nature Center, where funds will be used to support the care of their Albino Black Rat Snake that the senior class won the naming rights for via the Second Annual Penny Jar War! Yes, the snake will be named Deepa due to heavy campaigning by seniors John Estapa (SCHS) and Matt DeSantis (Cousino HS).

Enough funds were raised throughout the year so that a second animal, a snapping turtle, will also be adopted.

The completion of a yearlong project with the Sterling Heights Nature Center where students created a website with additional information about the animal exhibits that guests can access through a QR code located on the exhibit.

Ecology Team members flexed both their research and technology 'muscles' to make this project come alive and worked on it throughout the school year. Junior Michael McMain (Cousino HS) took point on the technology aspect of this endeavor.

As spring arrived, students continued their work on the interior courtyards of the school as well as planting new additions to the

fledgling Monarch Waystation that surrounds the front flagpole. The MMSTC Ecology Team has a core student group of 12 yearlong members and are joined by additional students as their sports, extra-curricular, and band schedules permit.

Special thanks for Mrs. Kincaid Dewey go out to Kelsey Giffin and Emily Vo (Mott HS) for their consistent leadership over the past year.

Pay attention to email and Facebook group posts about summer courtyard clean-up meetings over the summer which will be open to all students!









# MMSTC Class of 2018

## *Zoo Trip*

Friends, fun, relaxation, and...wait--an Acre-Estapa SCAVENGER HUNT??!!

Yes, in groups of three, students had to locate, identify, and document (with their cell phones) 25 species, locations, and facts.

The winning team scored big with MMSTC water bottles.

The competition grew fierce as students feverishly searched for Mr. Estapa as he made his way around the park.

Students from AM and PM worked together to complete the task while beginning friendships that will continue to grow over the next four years.





# End-of-the-Year *Memories*





## First Annual

## MMSTC and MS2TC

# Houston Trip

By: Charles Debczak '17 (CLHS)

On May 14th, The E-Charlottes RC Car Racing Team took a trip to Houston to compete in the national competition. Those who attended the trip were Charles Debczak, a sophomore of MMSTC and Center Line High School, Michael Rea, a 7th grader of MS2TC and Carter Middle School, and Barrett Tarr, also a 7th grader of MS2TC and Carter Middle School. Accompanying the students were Mr. Supal, Barrett's father, and Michael's father.

During the trip, the team visited a number of places, including the Schlitterbahn Waterpark, and the Lyndon B. Johnson Space Center. The Space

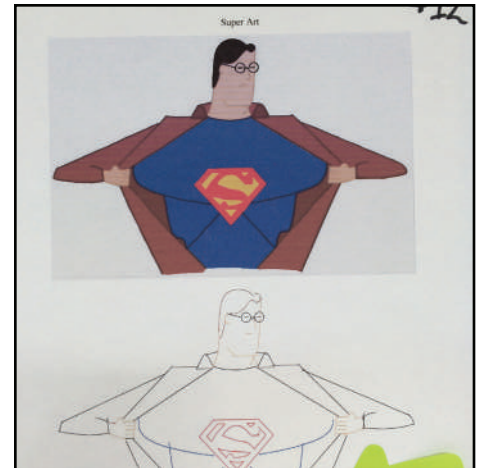
Center was a huge complex of buildings, with games for children, informative tours, and priceless displays. The space center even had touchable moon rocks, recovered spacecraft, and a colossal Saturn V rocket on display inside of a massive building.

The actual competition went well. There were a total of 39 teams, including high school and middle school teams. The teams were separated by high school or middle school. The E-Charlottes were placed in the middle school division. Although the E-Charlottes did not place top three overall, the team did well in many of the events. Charles Debczak scored 1st

place for the E-Charlottes in the drag race event, where a car is raced down a course approximately 75ft long and 3ft wide. If the car touches the barriers, the team is disqualified. The first team to reach the end without getting disqualified moves on, while the losing team gets eliminated. The team also took 2nd place in the team presentation event, where the team made and presented a Powerpoint Presentation about the team, the stuff they do, and their plans for next year. Overall, the trip was great fun, and the team hopes to do better next year with this additional experience.

# Function Art

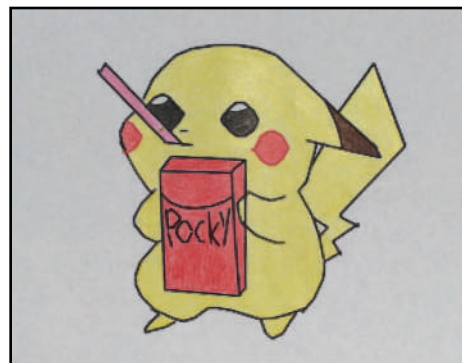
Sophomores in Mrs. Dewey's FST class showed off their creative sides by using Function Art! Students "showed what they knew" about the 19 parent functions and their transformations learned in class. Students and staff in the building voted on their favorites!



7th Place



1st Place



2nd Place



9th Place



# Class of 2017 College Visits

Sophomores at MMSTC made two college visits during the second semester.

In March, they experienced Lawrence Technological University's Career Exploration Day. Students signed up for a variety of individual sessions on different careers & majors offered at the University. In the process, students also were able to experience a typical college schedule

and had to find their way between buildings and rooms. The university finished the day with Jet's Pizza for lunch – which was a bit hit for all!

In May, sophomores visited Michigan State University for the College of Engineering's Design Day. Students got to view college senior projects, participate in hands-on activities and walk around the campus. Several alumni were available to

host an alumni panel where students could hear about MSU and the college experience from the mouths of people who had once been in their shoes at MMSTC.

Students found their input very valuable. Oh, and we even got a chance to visit the Dairy Store and sample some of MSU's famous ice cream – at 9:30 in the morning! No one complained though!



## *Cedar Point Field Trip*

On Tuesday May 19, the Juniors of MMSTC attended the annual fieldtrip to Cedar Point Amusement Park in Sandusky, Ohio.

The students learned about the reliability of Midwestern weather forecasting. Although the local weather man called for temperatures in the 70's and clear skies, they

were greeted with clouds, wind and temps in the low 60's. Fortunately, the weather kept the crowds small and lines were short all day.

While at the park, Physics students were required to collect data, make observations and calculations. They calculated the acceleration of the Millennium Force first drop, the amount of G-Forces on the Top Thrill Dragster, rate of work done on the Power Tower and measured the angular velocity of the Wave Swinger.

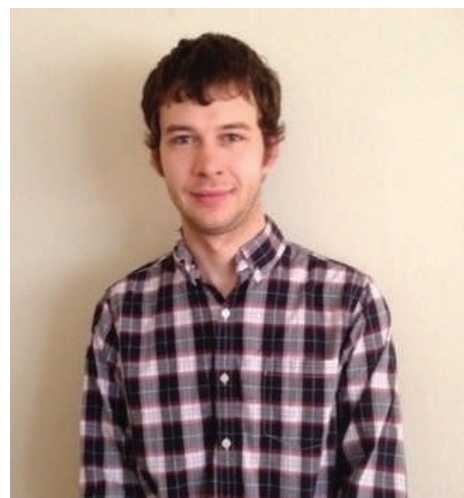
What was not calculated was the gain in chemical potential energy due to calorie intake via Elephant Ears and the Insulating properties of the multiple Cedar Point sweatshirts purchased that day.

The projects, which were counted as a Physics test, were turned in around 2:00, so the students had the rest of the day to enjoy the park and stay warm.

# Computer Science + Entrepreneurship = Success

by: Ryan Oswald (MMSTC / SHHS '06)

After graduating from Sterling Heights High School in 2006, I received a Bachelors Degree in Computer Science from Michigan State University and a Masters specializing in Artificial Intelligence from the University of Michigan. I worked for one year at MyBuys Inc, a small tech start-up located in Ann Arbor that provides on product recommendations solutions for online retailers. Coincidentally, at least three other MMSTC graduates have worked at MyBuys. Although the fast paced start-up culture was an excellent fit, I moved to San Francisco in 2013 to work for Google. At Google, I have worked on personalized recommendation systems for several teams. The precision required for Google scale engineering is truly extraordinary. My long term career and life plan is entrepreneurship.



How did MMSTC make a difference for me? Experiences from FIRST robotics, summer college internships, and independent projects have helped me to develop technical and communication skills, valuable for success in industry and academia. I highly recommend that young engineers look for extracurricular team work experience as early as possible.

## What IS Marine Biology? by Drew Martin (MMSTC/SHHS '13)

I am an undergraduate student studying Marine Biology at Florida State University. Marine Biology is the scientific study of living organisms that reside in the ocean or other marine systems. Research in Marine Biology may be focused on anything from orcas and sharks to starfish and scallops. I have recently been performing undergraduate research at FSU on stone crabs (*Menippes mercenaria*) and mud crabs (*Panopeus herbstii*). Like several other invertebrates, crabs are capable of releasing their limbs when grabbed ahold of by predators and serves as a defense mechanism for survival. Once this happens, the crab is free to escape and the limb eventually fully regenerates. What I am looking at is how this regeneration may affect the crab's feeding, mating, competition success, and growth rate as much energy is diverted from normal activities to regenerate a brand new claw. While conduct-

ing this research on the coast, you can come across many other marine animals such as the polka-dotted batfish (left). Also last summer I was involved with the Michigan Department of Natural Resources fisheries station on Lake St. Clair, in which we surveyed the lake for Lake Sturgeon (right) and collected blood samples and measurements.

The open waters holds some of the greatest diversity in all the world and there is so much still to learn in the deep depths of the ocean.





## A Career in MATH EDUCATION

My name is Danielle Mozal (MMSTC / L'anse Cruse North 2006) and I teach high school and college mathematics. Most people shy away from the idea of being a teacher: the hours are long, the pay is laughable, and the laws are a hot mess! However, after attending MMSTC, I knew students would never get the same experiences I was able to have because there was a shortage of passionate, hard-working teachers.

I teach at the high school and college levels, including coursework ranging from Basic Arithmetic to AP Statistics. As a teacher, you get the glory of pushing students past their perceived limits, and the pain of watching them do exactly what you warned them not to do. It is a job where you are never bored, you cannot become complacent, and you are constantly experimenting! You can pass down traditions from your favorite teachers, like Pączki on Fat Tuesday, you get to hug a kid at graduation who never thought they would make it, and you have the best stories! Just think of how many times you did something ridiculous and you KNEW someone outside of your family was going to hear about it over dinner....

This is not a job for the faint of heart; you will have nights where you cry out of frustration, joy, sadness, or pride. You teach for the love of the content and a compassion for your students.



## RESEARCH: UNDERGRADUATE STYLE! by David Stroshein (MMSTC /Mott '13)

Here at Lawrence Technological University, I just completed my sophomore year pursuing a Bachelor of Science in Chemical Biology. I am highly intrigued by plants, so I took the opportunity to conduct a research project with them. I decided to look into the carnivorous pitcher plants *Sarracenia purpurea* and *Nepenthes alata* to see what bacteria are present in their digestive fluid. Bacteria from the fluid was collected from lab grown and wild plants from the Water Loo State Recreation Area. I extracted the DNA of the bacteria to compare to other DNA strands registered in a database to identify them. I hypothesized that the lab grown plants, no matter the species, would have similar bacteria present; however, that was proven wrong. There was no correlation between bacteria found. Of those that were identified, such as *Chromobacterium violaceum*, are from tropical re-



gions, not North America. More plants will be grown and more lab and wild samples will be taken.

Even though LTU may not be known for its sciences, it has a great program there which provides valuable research experience for undergraduates, especially since the professors work one-on-one with you on a project you design.

## From the Director

**Catherine Neuhoﬀ, Ph.D.**  
**Director of Programs**

Greetings MMSTC families!

Congratulations and good luck to our seniors who have left us to “use their powers for good.” We look forward to hearing all the wonderful things you will do, now that “You’re on your own. And you know what you know. And YOU are the one who’ll decide where to go...” (Dr. Seuss)

Our newsletter highlights the amazing work our MMSTC students and staff accomplished over the second semester ranging from competitive creative story telling with mathematics and science forming their story backdrops to investigating arduinos with the help of Purdue University engineering students. We have Mr. Supal to thank for his perseverance in getting the college students all the way to Michigan to

share their knowledge with our IDS classes.

Flipping through each page I find myself smiling at all the wonderful projects, research, and presentations completed by our students. Where else do freshmen complete the ultimate MMSTC rite of passage of the TOWER project? This is followed by the FST Carnival Project - one in which students must apply their knowledge of probability with a flair for fun to create an UNFAIR game! In addition, Mrs. Dewey’s FST students prepared for and took on the Trig-Star contest where both speed and accuracy net rewards. Check out how two of our students (Allen, Hallam) took placement awards at the state level where over 1000 students compete! Continuing on we seniors receiving awards for their hard work in high school framed by “diligence, curiosity, and patience” (Rouditchenko), for research in science (Giallombardo and Nunez), and

technology - combining the love of art and coding (Rejc). Our seniors share their personal visions, accomplishments, and service in their senior exit interviews - something in which I personally enjoy participating as it helps me know that our teaching and support teams are helping our students reach our overarching program goals.

Still more fun fills our newsletter page, telling our story - what our staff does to create a “program” and not just a sequence of classes students take in a different building. Check out sidebars featuring classroom fun; highlights of MMSTC’s first ever trip to Chicago and the Annual Talent Show both spearheaded by Mrs. Dewey; Senior Dinner - a true team effort; Senior Breakfast; the work of the Ecology Club; the freshmen Detroit Zoo trip as well as the final day’s festivities.

Phew, having said all that, I wish everyone a restful, adventurous summer!

## MACOMB MATHEMATICS SCIENCE TECHNOLOGY CENTER

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### MMSTC MISSION STATEMENT

The mission of the Macomb Mathematics Science Technology Center, in partnership with families and community, is to create the best innovative environment which fosters excellence and vision in teaching, learning, and discovering the relationships of mathematics, science, technology, and society.

## WARREN CONSOLIDATED SCHOOLS

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