

Volume XV No.1

Macomb Mathematics Science Technology Center

Winter 2018-2019

Newsletter Available at [www.wcskids.net/MMSTC](http://www.wcskids.net/MMSTC) *Points of Pride*



You were **made** to be successful. You were made to do great things. You will make a positive difference in the lives of others. You will be so many wonderful things. But, success is *not always* an easy path. Success can *take time*. Success can be *difficult*. Success can take *patience*.

**TRAIN FOR IT.** Practice for it. Believe in it. Be *determined*. Be *strong*. Trying once is not enough. Trying twice is still not enough. How you react to a pitfall is what determines the limits of your success.

Success takes *commitment*. Commitment to healthy habits. Commitment to extra effort. Commitment to organization. Commitment to doing consistently what you know is the right thing to do. Success requires commitment to train in the right ways. You are worth this commitment. *Make this commitment to yourself.*

Here at MMSTC, we believe in your strength, and we believe in your ability to succeed. We believe that *you are worth it*. *We believe in you*. Don't just try to succeed. Train for Success, and make your goals and dreams happen.

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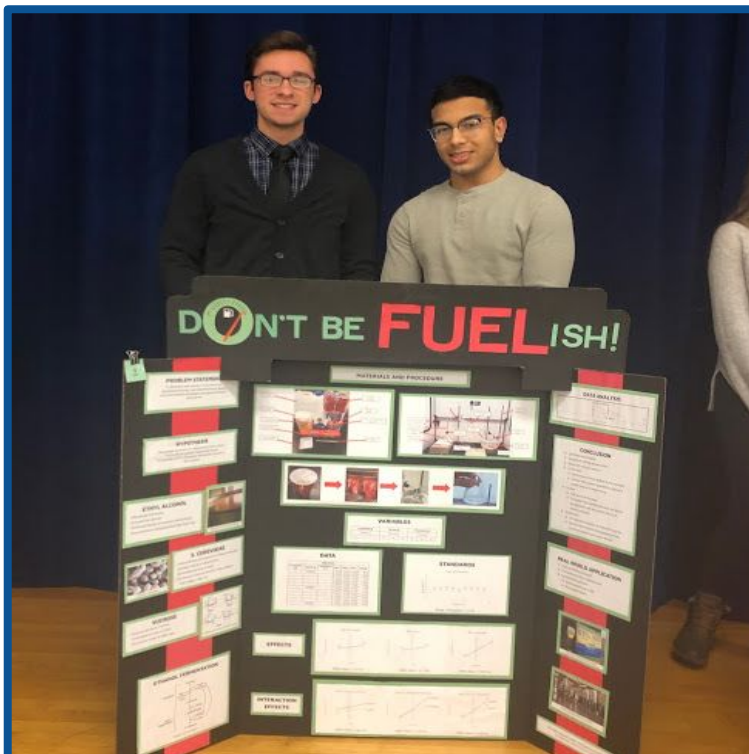
Want to see more great things going on at MMSTC? Follow us on Instagram: [mmstc\\_inspires](https://www.instagram.com/mmstc_inspires)

MACOMB MATHEMATICS SCIENCE TECHNOLOGY CENTER Winter 2018-2019

# ...And the Winners Are...

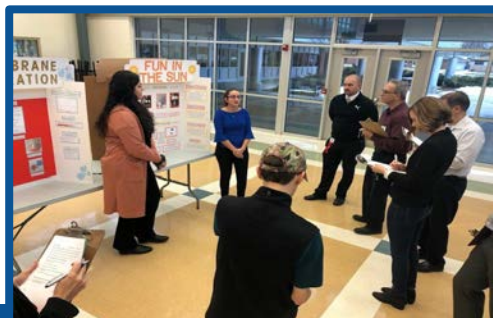


The annual MMSTC Science Fair took place on January 24th. This event allowed students to showcase their passions in the form of scientific research which lasted throughout the semester. This hard work and determination allowed students to grow as scientists, and present their ideas to judges who are experts in their field. Senior **Scott Zanichelli** said "I enjoyed the challenge it presented and I valued the insight and experience I gained from presenting my research to the judges."



## Grand Prize Winner:

*Don't be Fuelish*  
Sam Andrzejewski (Cousino HS)  
and Mahbub Jahid (Centerline HS)



## Class Winners:

**Biology:** *Don't be Fuelish* - Sam Andrzejewski (Cousino HS) and Mahbub Jahid (Centerline HS)

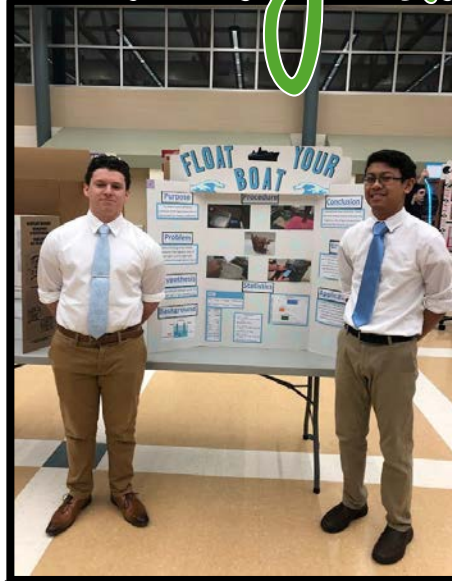
**Chemistry:** *Fun in the Sun* - Rogina Hanna (Warren Mott HS) and Lara Thomas (Sterling Heights HS)

**Physics:** *Sensational Siping* - Nathan Dobranski (Warren Mott HS) and Arnes Besic (Cousino HS)

# Senior Research Highlights



Researchers: Ava (Cousino HS) & Brianne (Tower HS)  
Problem: To determine if natural antibiotics like bromelain will kill more harmful bacteria than chemical antibiotics like penicillin.



Researchers: Caleb and Ryan (Mott HS)  
Problem: To find which metal yields the highest rate of gas production in an electrolytic cell in an oceanic environment.



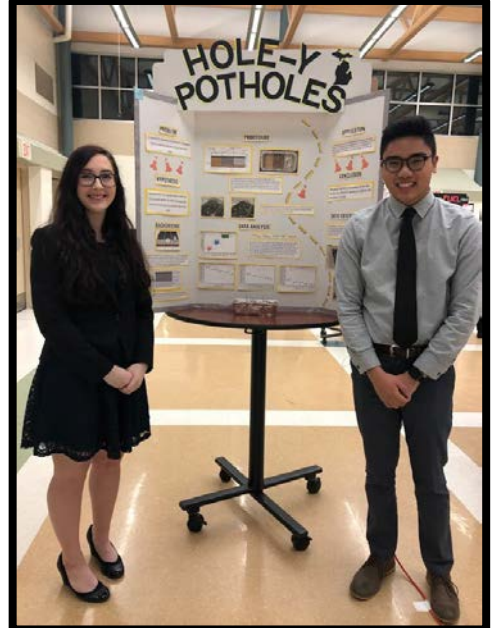
Researchers: Dee (Lakeshore HS) & Kate (SHHS)  
Problem: To determine the respective effects of cat litter, salt, sand, and rice on the reaction of a tire on ice.



Researchers: Kianna & Jessie (Lakeshore HS)  
Problem: To figure out what concentration of nitrogen and phosphorus fertilizer would yield the most moss growth.



Researchers: Beth & Emily (Mott HS)  
Problem: To determine the most efficient fruit peel out of oranges and pomegranates at absorbing methylene blue dye from water.



Researchers: Madeleine & Knicko (Mott HS)  
Problem: To measure the expansion and contraction of dampened asphalt on carrying subgrades, during freeze thaw cycles.

Innovation Technology Curiosity Difference Relationships  
Stress  
SUCCESSION  
Impact Ideas PASSION TRENDS

# Research



Research. Another class of MMSTC seniors have had the opportunity to contribute their research and findings to the scientific community--What an amazing opportunity.

The class of 2019 have looked at the world around them and questioned how and why things work like they do. By looking at what others have done, and studying the latest research in the field, seniors jumped right in and worked hard to make their mark and improve their communities.

Pre-trials, trials, more trials, presentations, science fair, and blog sites took center-stage during semester 1. Whether it was finding the best way to fix a pothole, researching water quality coming from neighborhood run-off drains, figuring out what materials can best help a car out of a slippery situation, or developing body armor to keep people safe; senior research was interesting, innovative, and inspiring. To say the least, senior research is one of those memories that stick with alumni for years after graduation. It is the culmination of four years at MMSTC. It is the ultimate opportunity to delve into innovative research and a time when making an impact is within reach.



## Research Information, Blogs, Results, Struggles, and Insights

You can follow seniors by clicking on their links from the MMSTC website under the SENIOR RESEARCH tab. Below are just a few video clips of researchers talking about their research ideas. Feel free to check out their progress and comment in their blogs. [Click here for a link to MMSTC's Senior Research page.](#)

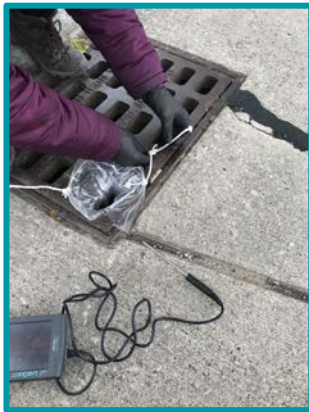


## Empowered to make a Difference

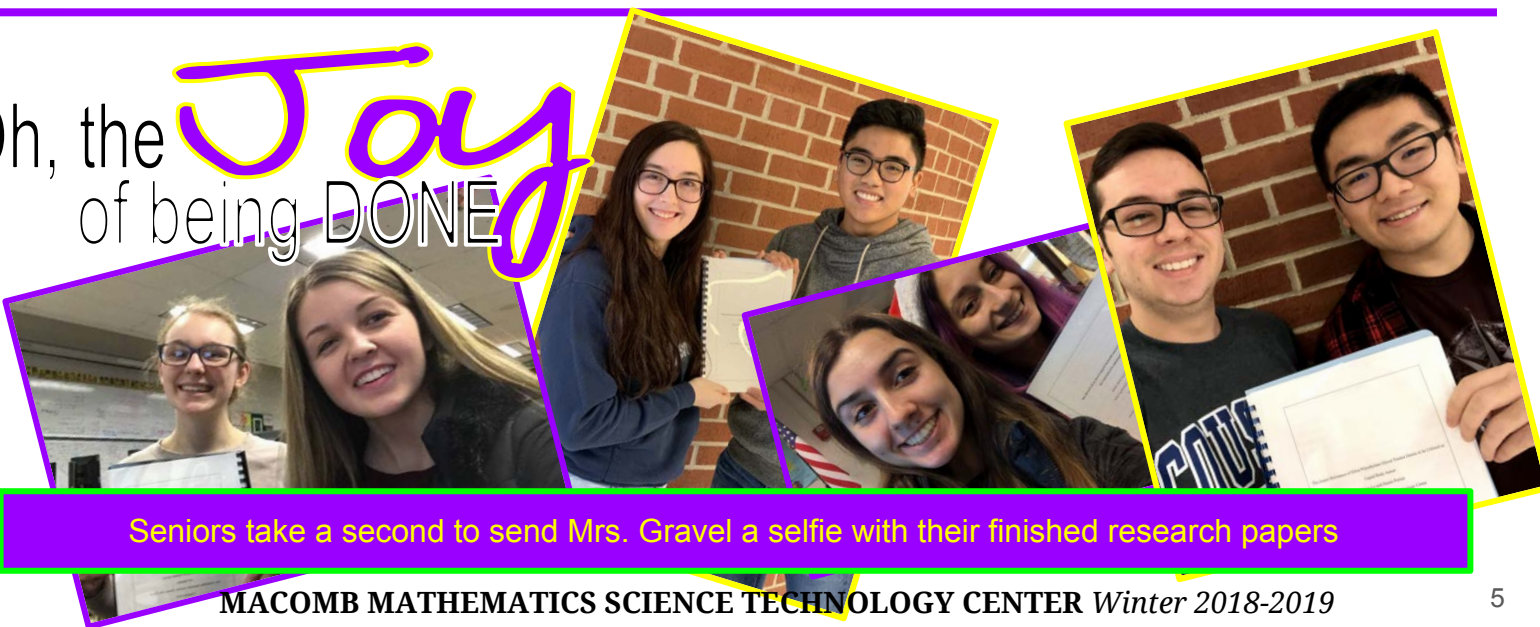
By: Lauren Livernois '19 & Elizabeth Stacheit '19 Lakeshore High School

The research that we did at MMSTC helped to empower us. We were given a great amount of support and guidance from the staff that made it possible for us to apply our learning towards making a positive impact on the world. We were given the freedom to choose our own topics which means that we were able to choose a topic that we were really interested in since people are more likely to make a greater impact when they are passionate about something.

We are very grateful for the opportunity that we had to do research because most high schools are not given the resources and guidance to apply their learning to the real world. Research taught us how to work effectively with other people, find our strengths as scientists and collaborators, and that great experiences take a great amount of work.



Oh, the  
of being **Done**



Seniors take a second to send Mrs. Gravel a selfie with their finished research papers

# Thank You!

Senior presentations are a great opportunity for students to tell their family and friends about all that they have worked on throughout the semester. It takes a village; and senior research and presentations are a success year after year because of the hard work, commitment, and overwhelming support from teachers, parents, family members, friends, and community members. Thank you!



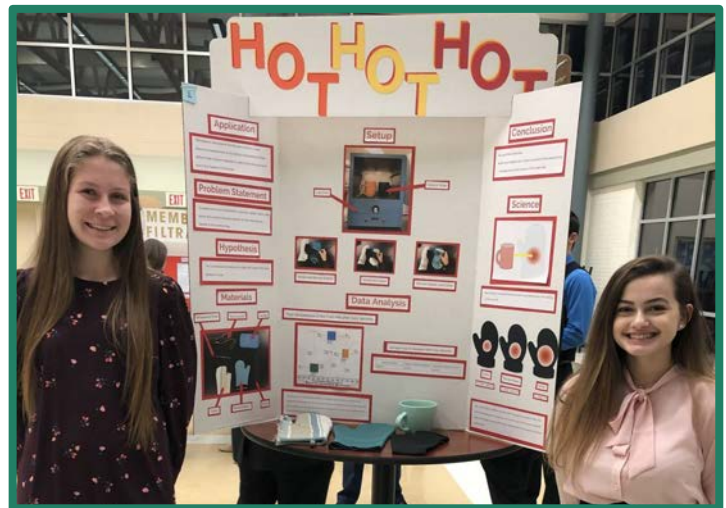
# People's Choice



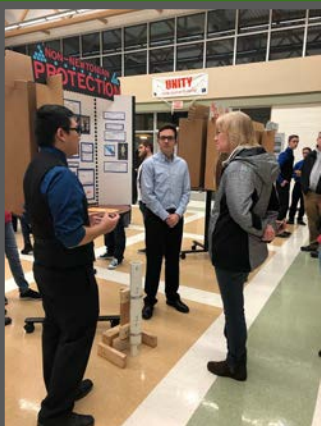
On January 23rd 2019, the Class of 2019 displayed their science research projects to parents, students, relatives, friends, and community members. They got to talk about their amazing projects, which helped the students prepare to present for the judges for the upcoming Science Symposium competition day.

All attendees got to vote for their favorite project and the group with the most votes received a \$50 prize!

This year's winners were **Mackenzie Nitz** (Tower HS) and **RaeLynn Carra** (Cousino HS) with their project 'Hot! Hot! Hot!'



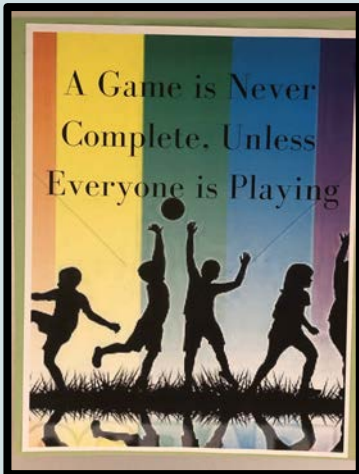
"[We] won by being outgoing and reaching out to people passing by to talk about their experiment. [We] had a lot of friends and family come to support us!" said **Nitz '19**



# Inclusion

## What Does This Mean at MMSTC?

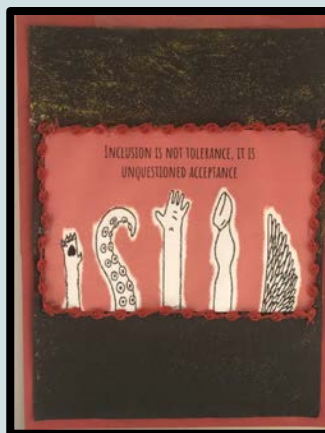
- Dr. Catherine Neuhoff



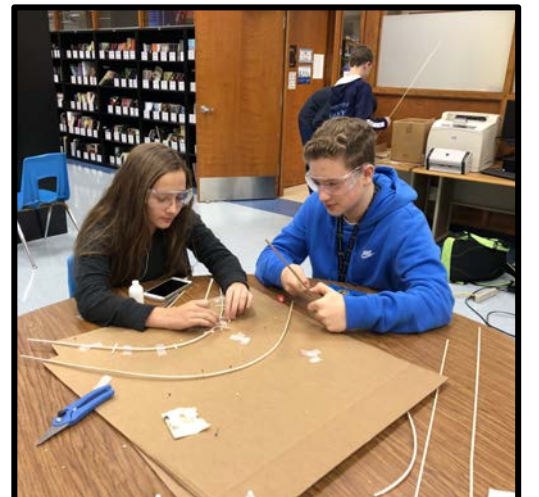
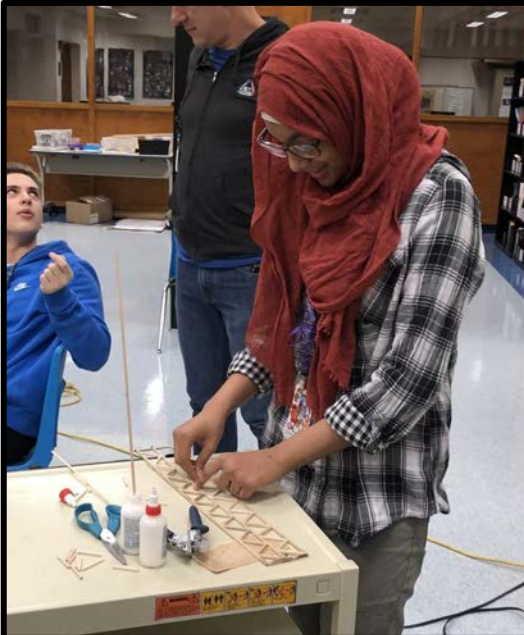
One of the many aspects of MMSTC that I have grown to love is how students are so accepting of each other. I have seen students with different interests and abilities *work together* to complete amazing projects. I have seen students who would traditionally be stereotyped into different cliques and avoid each other, become *lifelong friends*. The term in education for this is *Inclusion*. MMSTC students are masters at inclusion. We truly embrace our differences and celebrate our strengths. I see this every day, and it truly warms my heart.

Our school goal this year is to *continue to improve on and celebrate inclusion at MMSTC*. Just like how leaving a sticky note on a desk can serve as a reminder for an important date, we inundated our hallways and classrooms with reminders of the importance and benefits of inclusion at MMSTC. True school-wide inclusion requires a true school-wide effort; and the inspiration and insights of *every single MMSTC student* are displayed throughout the school.

“MMSTC helps me feel like I belong because it gives me the opportunity to really express myself. Everybody here, including staff and students, makes me feel comfortable to really express who I am and not be scared of not fitting in or being wrong... The teachers here always help you work through every challenge you're faced with. Everybody here makes you feel like family, and it's really nice to be able to have the type of environment where everybody is so nice to each other and is always making sure everyone is included. Some challenges are hard but here we always make sure we work together and make sure everyone succeeds” -Hailey Brannon '22 (Fraser HS)



# ABOVE & Beyond



How do you know if you love to program? How do you know if you love to build? How do you know if you enjoy making apps and creating video games? ...You try it out; and that is exactly what freshman students are doing in 9th grade IDS.

Students are able to create a project they are interested in trying. Projects include Alice Programming (Duke University), MIT App Inventor, Lego Mindstorms NXT & EV3 Build and Programming Projects, Competitions, Charity Projects to Use our Powers for Good, MDot Design and Build Bridge Competition, HTML Programming, Movie Production, and Arduino Projects. Mrs. Gravel encourages her students to explore different topics and experiences.

In 4 short years, this exploration could develop into a passion and a possible career focus.

"I like that we can work at our own pace and do something that interests us rather than just whatever is thrown at us," said Olivia Agnew '22. Olivia worked on Lego Mindstorms.

Mackenzie Voss '22 liked designing and building a cable-stayed bridge for the MDOT competition. She liked "Getting hands on with the project and being able to build things."

# Bridge Table Challenge

Mr. May's junior IDS classes were busy designing and building dedicated structures for bridge testing. Students were able to showcase their planning, teamwork, and design skills, while trying to apply their math skills at the same time. Students were able to understand how much goes into the actual production of items we use everyday and take for granted.

The students were given basic requirements, such as height, position and number of legs, and had to perform calculations to determine the angles required to meet the unique dimensions. Each junior class nominated a project manager to lead the way, and split into sub-teams involving design, calculations, & build. They competed with each other to make the most accurate, stable, and aesthetically pleasing MDOT Bridge Testing Table, and had to document the participation of all members of the class throughout the process.

When the tables were finished, freshman classes were able to test their bridges on the newly build testing tables.



## Also in 11 IDS

The Junior students have explored JavaScript this semester through participation in an AP Computer Science Curriculum provided by Code.org, familiar to many who have previously participated in an online coding program "An Hour of Code" also provided through Code.org.

The AM Junior class was able to use the assistance of Shawn Garrison, an IT professional employed by General Motors Corp. in Warren, who volunteered his time twice a week to work with the students. His participation was in conjunction with TEALS, a Microsoft Philanthropies program that works to put Computer Science in every school.



# BENJAMIN BANNEKER CLOCKS

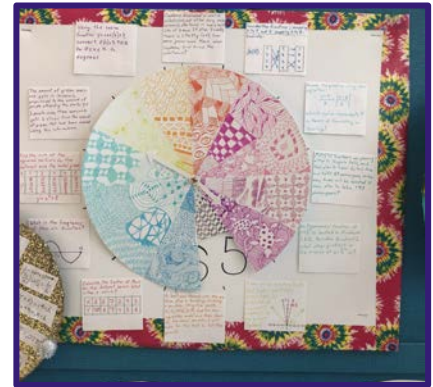
Once again this year, MMSTC students mixed mathematics and creativity to show what they know! The Benjamin Banneker Association (BBA), an affiliate of the National Council of Teachers of Mathematics (NCTM) sponsored Benjamin Banneker Week which honors and celebrates the life and accomplishments of Benjamin Banneker. Benjamin Banneker (1731-1806) was a free-born African American mathematician, astronomer, scientist, farmer and writer. BBA has put together resources to assist K-12 students in learning about this influential man during the week of November 9<sup>th</sup> (Benjamin Banneker's birthday).

Students in all of Mrs. Kincaid Dewey's math classes constructed a Creative Clock Face using appropriate math content to create the numbers 1-12-since Banneker created a wooden clock that held accurate time for over 40 years.

"Students really enjoyed being able to use the math we've been learning in a creative way! The themes this year were fantastic – everything from Salvador Dali and astronomy to Disney movies and origami," says **Mrs. Kincaid Dewey**.

## Finalists:

12th Grade Calculus: Dee Paulson (LSHS), Aubrey Rupert (Mott), Skyler Flake (Mott)  
 10A: Rizwan Hayder (Mott), Taz Amin ( Fitzgerald), Jamie Jacob (LSHS)  
 10B: Tyler LeMaigre (Fraser), Sanie Bashir (SHHS), Isha Khan (Cousino)



# In the Spotlight



## Job Shadow

**Taylor Aleo '19 Frasier High School**

Thanks to Mrs. Gravel, I was given the opportunity to job shadow **Dr. Payal Shah**, who is an emergency room doctor at *William Beaumont Hospital* in Royal Oak. Dr. Shah is a 1997 graduate of Warren Mott High School. Right away I felt comfortable with Dr. Shah and excited to see what the evening had in store for us. She was able to answer any questions that I had and showed me around the hospital. Instead of just letting me follow her around aimlessly, she introduced me to doctors and patients, and showed me the wings of the hospital. Overall, I was able to observe many patients, nurses, doctors, residents, and medical school students. I am grateful for this experience and would love to go back to job shadow again. This experience confirmed that the medical field is where I belong.



## Pet Shelter Volunteer

**Dee Paulson '19 Lake Shore High School, Attending Michigan Technological University (Software Engineer)**

Dee has been volunteering at *Home Furever* for 3 years. It started out as fostering. We did a forever foster for an older dog that was given up at the age of 16. My mom found the organization and just started fostering. I see so much prejudice about certain breeds, mainly pitbulls. We pick them up off the streets of Detroit. People just keep breeding them. Other dogs are dropped off because of financial reasons. Other dogs just aren't wanted any more. I am just a dog lover and Home Furever needs volunteers.



## Food Drive

**Corinne Hinson '20, Rachel McMenamin '20, and Isabella Palomba '20 Fraser High School**

MMSTC's own superstar juniors, Corinne, Rachel, and Isabella truly used their powers for good and helped those in need. After planning a hypothetical clothing drive for a 10th grade project, the three decided to bring their idea to life as *Hope for the Homeless*. From Nov. 12-16, donation centers were set up in five Fraser Public Schools buildings, asking for winter clothing items. All clothes were donated to persons in need throughout Macomb County. We are so proud of this team of problem solvers!

The trio was featured in an article linked here [here](#) by: Nick Mordowanec | Fraser - Clinton Township Chronicle | Published January 7, 2019.



# MMSTC MDOT Bridge Competition



By: Paul Havern '19 Warren Mott High School

The Michigan Department of Transportation (MDOT) annually holds a competition that brings students in from all over the state. Through the American Association of State Highway Transportation Officials TRAC (Transportation and Civil Engineering) Program, students compete to determine who can construct a certain type of bridge that has the best mass:durability ratio. At MMSTC, we have the wonderful opportunity to take part in this competition, and, if granted by MDOT, can attend the state-wide competition at the Amway Grand Plaza in Detroit. This is no easy task. Students start preparations months in advance, must look over research about the bridge type, and actually construct and test the bridge. In addition, all of this must be recorded and typed in an analytical paper.

My team and a handful of others have had the privilege of competing at the state level at the Amway Grand Plaza in Detroit during our ninth grade year. In retrospect, there are few times in my educational career that I can recall having such a great experience. Many of us did not know what to expect in high school, especially since we would be attending two (MMSTC and the home high school). This uncertainty about the future was easily morphed into fear of the future. We had friends that we saw all day. High school was our next step, and this time MMSTC exposed us to students from many other places. The bridge competition, in the end, was able to soothe some of our worries.

The bridge competition was a great way to demonstrate the several qualities and requirements of MMSTC. The competition was a group competition (learning to compromise and work with others). The competition placed students in a position to budget their time wisely (MMSTC requires time management and planning). Students have to know formatting and the bridge paper certainly achieved that. Most importantly, the bridge was able to smooth over the rough uneasiness many students were feeling. For example, groups for the bridge turned into friendships that still exist today. There is no denying the bridge project is one of the most challenging tasks, especially for incoming freshman. But, the growth students like myself and others have achieved through the bridge project cannot be overstated.

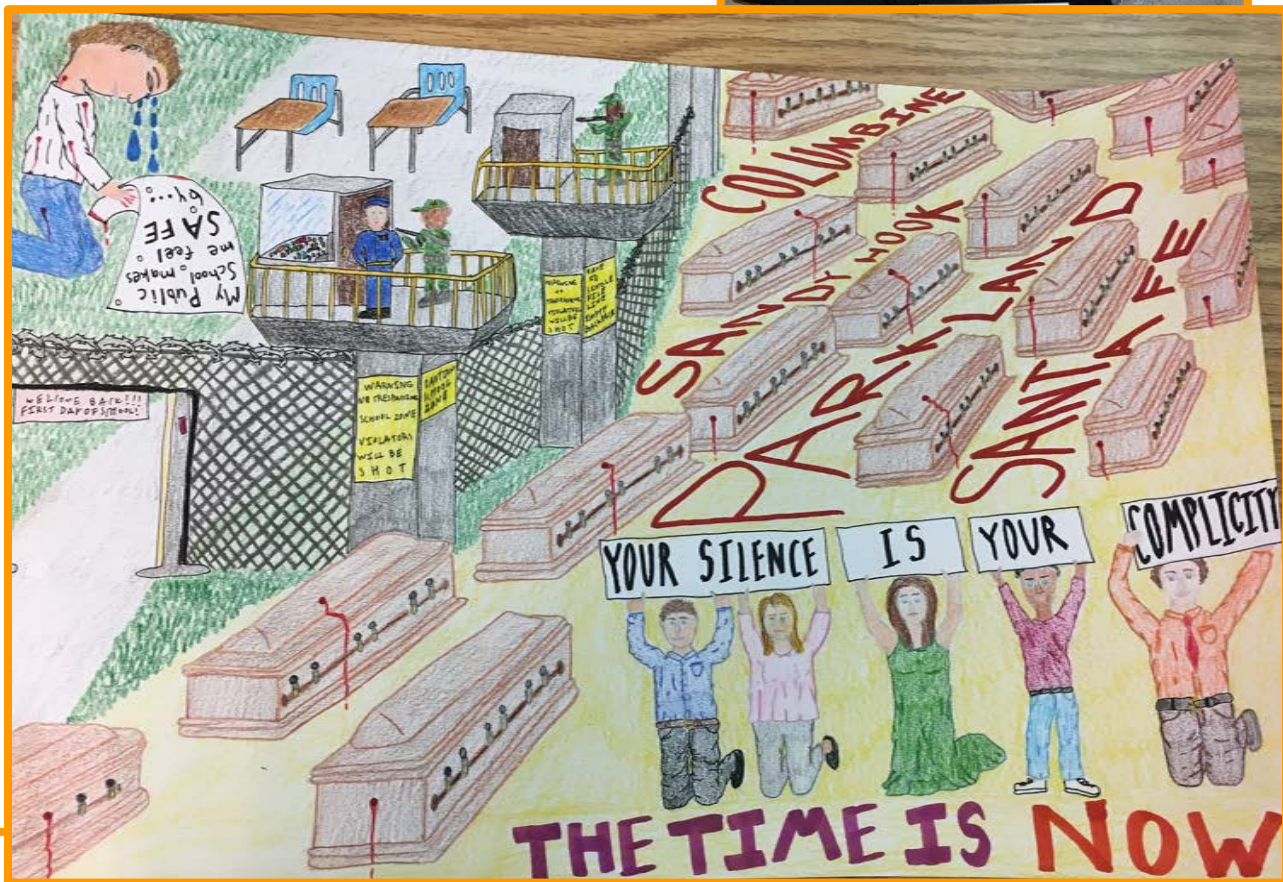
If I were a miner trapped underground digging my way out, I can confidently say the announcement that the bridge competition was taking place this year was the little speck of light in that dark cave. Beginning to chip away the sediment, I remember more and more of the my first experience as a freshman. Reminiscing makes me look forward to the construction of the bridge and testing the bridge's durability. Conversations with other students confirms that there is excitement in the air regarding the bridge. Team Pasta is back to claim the throne at the Grand Plaza!



# WCS and WEA Annual Poster Contest Grand Winner

The Warren Education Association and WCS sponsored their annual Poster Contest during American Education Week. This year's theme was "My Public School makes me feel safe by..." MMSTC's Paul Havern '19 WMHS was one of the Grand Prize Winner's for his emotional memorial and reminder.

*"I was inspired by the deaths of people who where my age and in my grade--and the inaction that followed. The 'move-on' mood frustrated me, and I knew this had to end. I wanted it to be a reminder--a reminder that the problem is not solved, and until we solve it, more innocent children, students, and teachers will be killed--and that's not something I can live with"*



## In the Spotlight

MMSTC's own senior **Jessie Ludwick** joined her triplets and powered her home school, Lake Shore High School, to the county bowling championships. In addition to her academic motivation and gifts, and athletic determination and accomplishments, Jessie is also blessed with a voice that brings tears to our eyes during her singing of the *National Anthem*!



# Calling all Amazing, Hard-working 8th Graders!

By: Krystal Quinn '19 CHS

I was honored when Mrs. Ansel asked me to speak to the 8th graders at Carter. MMSTC has had a very large impact on my growth not only academically, but as a person, and I was eager for the opportunity to convey that to potential students. I had faced many decisions in the transition from middle to high school and cherished the opportunity to express my own experiences in the hope it would help them. It was almost like a "if you could go back in time 4 years what would you tell yourself" kind of moment. We were presenting to these kids, and it dawned on me all over again just how much I had changed and grown in those short years. It was a pleasure to talk to 8th graders about the opportunity that awaits them at MMSTC, if only they took that leap of faith we all did 4 years go. I ended our presentation to them with a 4 minute tangent about why they were in school, why we all make an effort to succeed. I reminded them that we are here to change the world, and reinforced just how much I thought MMSTC was the building blocks for that kind of start to life.



## League of Legends



League of Legends is the largest top down MOBA (Multiplayer Online Battle Arena) game that was released in 2009. In League of Legends, there are 5 different roles and two teams, for a total of ten "summoner's." The main objective of League of Legends is to outplay and outmaneuver the opponent team and win by destroying their base, or "nexus," while playing as one of 143 champions on the "summoners rift". MMSTC students, **Blake Hall** (Top Lane), **Kevin Doerr** (Mid Lane), **Scott Zanichelli** (Jungle), **Ryan Accad** (Bot Lane) and **Timmy Kemp** (Bot Lane Support) will be filling the roles to compete in the **Michigan Esports, state championship competition**. We urge those interested to tune into the Michigan Esports Twitch.tv channel to watch the matches in February. See you on the rift!

## MMSTC ECOLOGY TEAM

By: Mrs. Kincaid-Dewey

This year's Ecology Team has been working on a variety of projects this school year. In the fall, we visited Mr. Grobbel's apple orchard, i.e. his back yard, and learned about what it takes to have a successful crop of apples! His almost-acre property is within walking distance of MMSTC! We also saw a pair of deer who take up residence in the far corner of his backyard to take advantage of the apple crop.

At this year's Halloween Party, the Ecology Team organized a craft that made use of egg cartons, showing students the possibilities of reusing materials in a new way!

In November, we helped to spread awareness about recycling plastic bottle caps and celebrated America Recycles week by bringing back the popular contest between the grade levels! We almost doubled the amount of bottle caps collected this year -- 19,038 in 2018 compared to 10,140 in 2017! The Class of 2019 won this year's contest! Collected caps were used in a variety of ways: most went to MSVPA social studies teacher Mr. Mutschler to use in a classroom project. Others were used to make snowflakes in Mrs. Dewey's Crafternoon gathering -- they can also be seen hung up on the Ecology Team bulletin board!

Two other collection projects are the ongoing Wands for Wildlife collection - bring in your used but CLEAN mascara wands to be sent to the Appalachian Wildlife Refuge for use in animal rescue efforts. During January and February, we collected the card fronts from greeting cards to be sent to St. Jude's Children's Hospital. They re-purpose card fronts and sell them as a fundraiser for the children.

Another ongoing project resulted in a field trip to the Sterling Heights Nature Center in December. They have been remodeled and we will help them expand on a previous project completed two years ago. Using free technology -- a Weebly website and a QR code generator -- we will do research on various animals and exhibits at the Center, upload information to the website and create QR codes to be placed on the exhibits. Visitors can then scan the codes to get more information about that particular exhibit, answer a multiple choice question, and even hear an audio recording of the animal or watch a short video. We anticipate this project to be completed by the end of the school year.



# HOMEcoming

## *Where Freshmen Form Friendships*

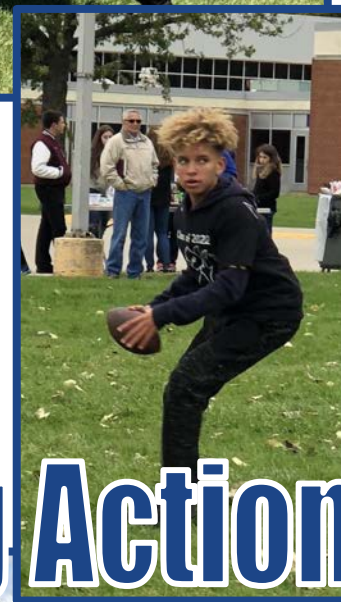
Pizza, flag football, class t-shirts, logos, bands, banners, junk food, half-time performances, flags... MMSTC can fit a lot of fun into a 1-hour celebration! This is what we call Homecoming - MMSTC-style!

A friendly competition and a shared meal is a sure way to help 9th graders get to know each other better.

This is the year traditions begin. Students decide on class mottos, design t-shirts, organize meals.

It is already apparent that the Class of 2022 is motivated, kind-hearted, and determined to make the world a better place.





## Homecoming Action



# Sophomore Camp

## A Day of Fun, Friendship, Skill-building and ..Pizza!

Team building continues to develop during an MMSTC student's sophomore year, and sophomore camp is the event that kick-starts the process. The entire sophomore class came together for an all-day event that focused on specific skills. Students practiced how to listen to the ideas of others, how to work together to agree upon and accomplish one goal, and how to compromise. These skills often take some practice, so students were able to use those essential communication skills

Students also had a chance to explore and discover their own academic strengths and weaknesses. The day also gave the morning and afternoon students an opportunity to get know each other a little better, since in the future they may end up being research partners. In a nutshell, that is what sophomore camp is all about!

The day started with a continental breakfast of bagels and juice, then proceeded to a rotation of different activities such as tie-dying, personality and learning style exploration, as well as a myriad of other team building activities such as passing a hula hoop from one end of a chain of students to the other without using their hands and just relying on the help of their teammates.

After that, students signed up for certain events in the Mystery Olympics which had them creating original fashion designs, walking down a catwalk, and competing in an eating contest. The highlight of the day was a walk to the bowling alley where the students had lunch and enjoyed a couple games of bowling.



## Capture the Flag

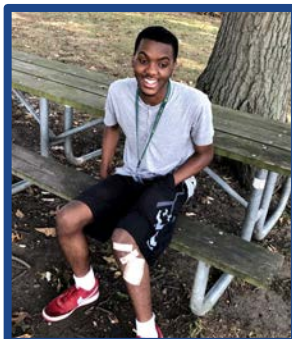
The annual battle between **Red** and **Blue** raged on at Butcher Park for the Senior Capture the Flag competition. The grand prize? -- Pride. Honor. Bragging Rights.

Mr. Acre starts the event off with the rules, then monitors the competition.

Students have been working on projects together since their freshman years, so teamwork was not a problem.

Who won? This year, the battle ended in a tie, with only a few injuries.

The spirit of competition runs strong in this class, but once the food was served, sweetness prevailed, and the MMSTC senior class was **one** again.



# HALLOWEEN

## MMSTC-Style

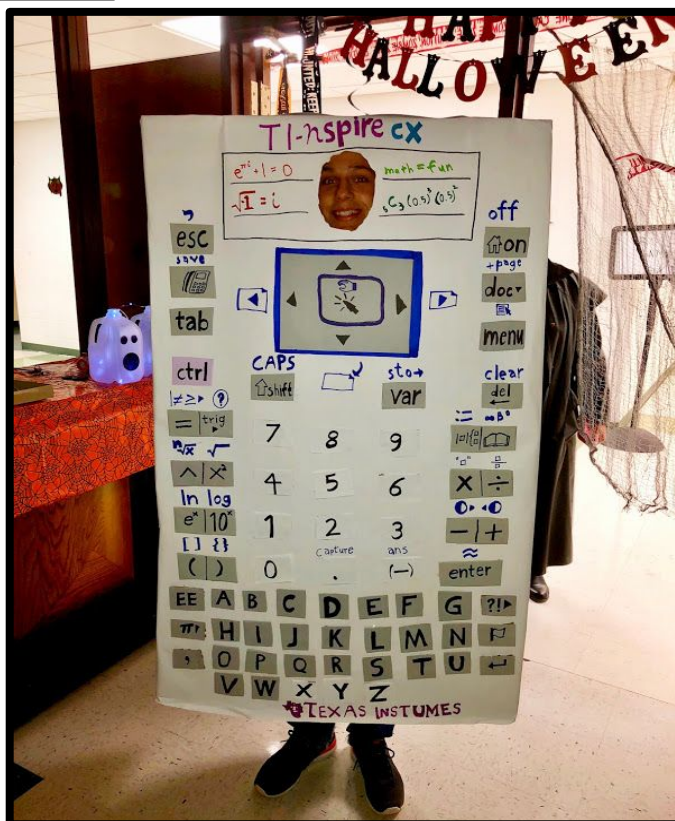


**MMSTC's** annual spooky Halloween party included dancing, pumpkin carving, musical chairs, and some video game fun.

The party brought out some interesting characters; Bob Ross, the Mario Bros, princesses, grim reapers, Waldo, a horse, a scary bug with red eyes...We even had our mascot in attendance: Tilnspire! You name it, MMSTC had it!

Everyone came together to enjoy all the festivities. The intense game of musical chairs ended in the senior class winning. Other games that the attendees enjoyed were *Beat Saber* and *Wii Sports*. Even **Mrs. Dewey** gave the VR system a try.

The annual costume contest was also a big hit this year. All and all, the evening gave everyone a relief from the stress of school.



# CHEMSGIVING

One of the best parts of the fall season is Chemsiving! Despite the amazing amounts of hard work shown by the students in AP chemistry, the class also has fun!

Before Thanksgiving break Mrs. Hilliard and her students share a fun day of pancakes, bacon and other breakfast goodies. It was quite a sight to behold, some students cooking while others were setting up placemats or having fun with their friends.

The coursework for AP chemistry is very challenging, but there are moments like this that make the class worth it.



## Move-A-Thon

**Thank you PTO** for another successful and fun Move-a-thon. Besides raising funds to support all three Butcher programs, students were able to get some exercise and have some fun in the sun.

Another high point of the day was seeing all the siblings that we have throughout all three Butcher programs. We love our Butcher community, and we are truly blessed to be able to work with an amazing group of families!

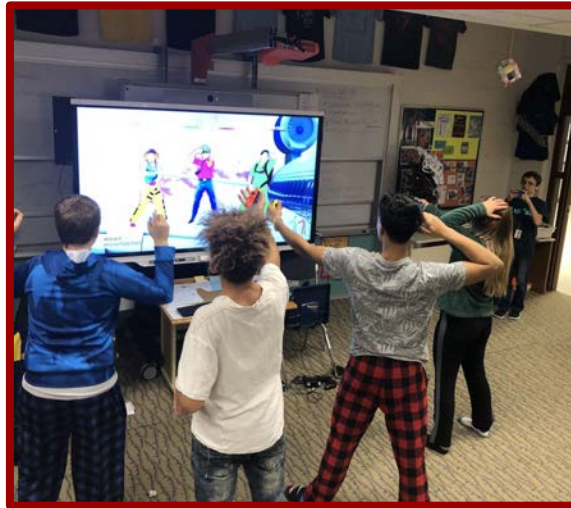


# MMSTC Traditions

MMSTC loves to celebrate. We celebrate success, hard work, holidays, and each others. These student-directed activities and traditions are started during each class's freshman year, and evolves with each class.

This year, freshman ran their first Secret Santa gift exchange in front of the (digital) fireplace with holiday music playing in the background.

Some classes cooked breakfast, some classes played *Just Dance*, some classes played *Mario Kart*, but all classes helped to start traditions that create lifelong bonds and friendships.



## Using Our Powers for Good

The Giving Tree has evolved into an MMSTC tradition, and the best part about it? --It is completely run by students.

In October, freshmen students in IDS classes are given the opportunity to embark on an individualized adventure in education called *Above and Beyond*. Students choose a skill or project and do their own research, planning, and implementation.

**Nawal Ahmed** (WMHS) and **Erica Elizondo** (SHHS) wanted to *Use Their Powers for Good*. Their goal was to find a way to help peers in need. After contacting a couple local shelters and charities, they decided to work with the Oakland County Children's Village. This facility houses and cares for children who are unable to remain with their families for various reasons.

The donations requested from the facility were modest. The donations from friends and families of MMSTC were generous.

Thank you to all who donated and supported Nawal and Erica in their quest to make the season a little more cheerful for peers in need.



## Taking it TO THE ICE

Students and alumni went to the Troy Sports Center for the annual MMSTC Ice Skating event. Students, alumni, teachers, and parents showed off their skating skills, tried to skate, held up the wall, or played it safe and enjoyed cards and food in the lobby.

Whether students are new to skating or seasoned pros, they helped each other out and kept each other safe.

"Visits from alumni make the event more and more special each year" said Mrs. Gravel. Thank you to Mr. Estapa for organizing the event, something he is able to secure for MMSTC every year.



# Senior Holiday Celebrations

Seniors celebrated the holidays together by upholding traditions set back during their freshman year.

The day started with Secret Santa and included bacon, pancakes, and tons of goodies. For the last hour of the day, students were treated to the National Geographic movie *Science Fair*. The movie follows nine high school students from around the globe, in their quests to showcase their ideas to make the world a better place. Thank you **Mrs. Hilliard** for making this awesome movie experience happen!



# University of Michigan

## College Visit

"This place is magical" students remarked as they walked through the beautiful, snow covered campus. In November, students had the opportunity to tour the campus, speak with alumni, staff and experience a classroom physics presentation at the University of Michigan.

By the time our students graduate from MMSTC, they have visited Wayne State University, Oakland University, University of Michigan, Michigan State, and Lawrence Tech. Mrs. Ansel also brings university representatives to our school from all over the state and country to speak with students and staff.

Exploring future options is an essential component in a high schooler's experience. At MMSTC, we are thankful for and strive to expose our students to a variety of post-graduation options.

U of M is a top choice for many MMSTC students. This campus tour gives students the opportunity to get a feel for what college could be like for them.



**M** UNIVERSITY OF MICHIGAN



A trip to WSU is an MMSTC student's first college visit. This year, students experienced classes and presentations in PT, Mortuary Science, and Engineering. The trip ended with a visit from MMSTC alumni who talked honestly about classes and gave advice for making it successfully through MMSTC.

"The part that stood out the most was when the students told us about their personal 9th grade experiences. This reassures us that they were once in our shoes," said Leone Namo '22.

Abby Monroe '22, whose parents both attended WSU, appreciated learning about "The influence MMSTC had on the college life."

"Seeing how being in this program has helped them (alumni) in the future" was especially helpful to Aaliyah Magni '22.

Elliot Stansberry found it interesting "How even though they went to MMSTC not all went into a STEM field, one even went into psychology."

"MMSTC creates a culture of excellence. Our students become successful, responsible, and helpful citizens, and listening to alumni speak and talk about their accomplishments and goals is always inspiring," said Mrs. Gravel.



### Lake Shore High School & Macomb Mathematics Science Technology Center graduate **Paige Redlin** selected for BGSU College of Business Student Ambassador Program.



The College of Business at Bowling Green State University announced that **Paige Redlin** has been named to the highly selective Student Ambassador Program. Redlin is a 2017 graduate of Lake Shore High School & Macomb Mathematics Science Technology Center High School.

"We are pleased to accept Paige into the Student Ambassador Program," commented Dean Ray Braun. Redlin has been a highly engaged student in the College of Business. Aside from being on the Dean's List every semester, she holds a perfect 4.0 with a junior standing while studying both international business and finance. She is involved in many programs throughout the College of Business, including Dean's Scholars and Peer Leaders while becoming the Vice President of Recruitment and Engagement in Women in Business Leadership. All of these opportunities have led her to obtain a summer job as a Mortgage Banking Development Intern at Quicken Loans.

Student Ambassadors represent the College of Business by engaging with prospective students, current students, and alumni. In preparation for their role, Student Ambassadors complete a course focused on presentation and networking skills.

"I am thrilled to be accepted into the Student Ambassador Program," remarked Redlin. "The College of Business is amazing and I look forward to working with Dean Braun as a Student Ambassador."

During high school, she balanced extracurricular and academic activities at both Lake Shore High School and MMSTC. She graduated as Valedictorian and Class Vice President along with being involved in Yearbook, National Honor Society, and a selective STEM program.

The College of Business is among the top 1% of business programs in the world, accredited in both business and accounting, and is ranked as the 29th best public undergraduate business program in the United States. You can learn more at <http://www.bgsu.edu/business>.

Source: BGSU College of Business

During Paige's freshman year at BGSU, she spoke to MMSTC classes about her experiences at BGSU. Paige's success is a direct result of her fierce determination and never-quit attitude.

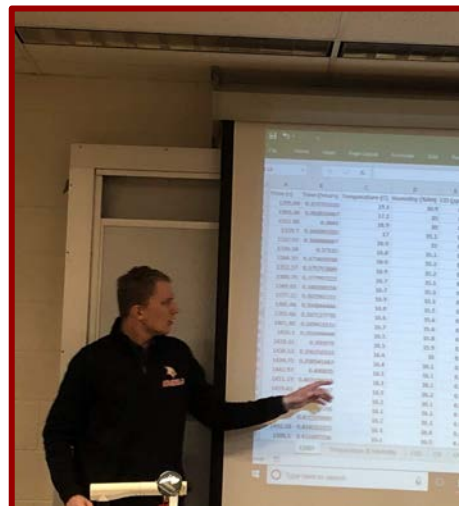
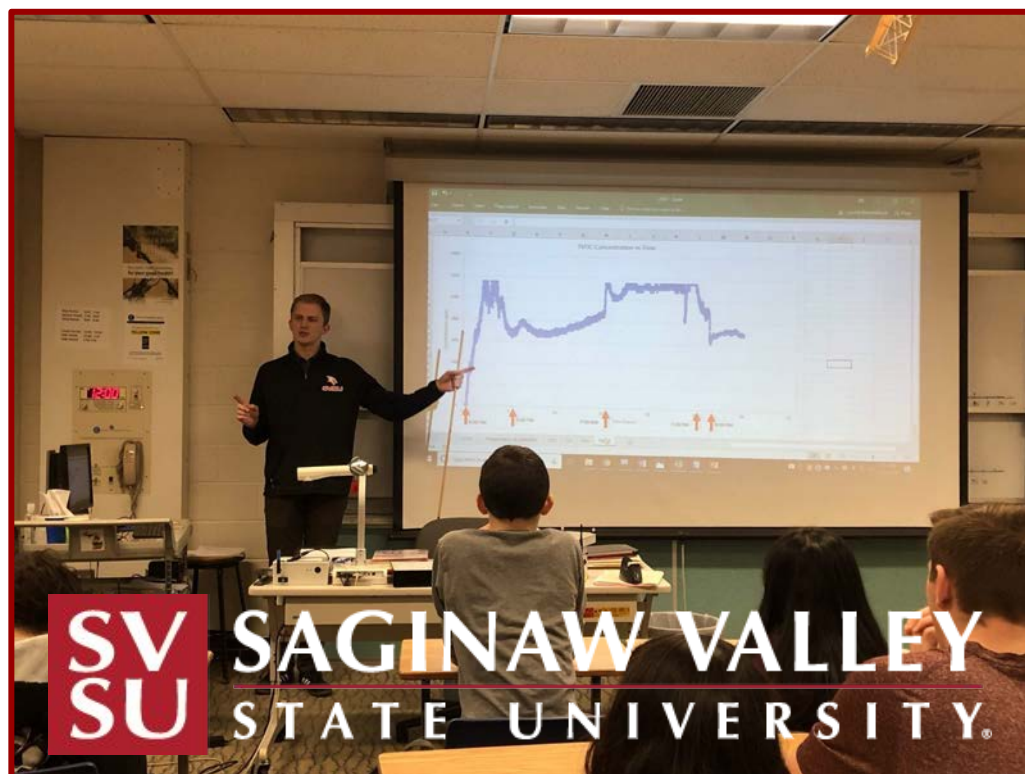


## Alumnus Noah Conner Comes Back to MMSTC to Show Sophomores How Engineering and Statistics are Used in His Senior Design Project for Electrical Engineering

Tenth graders in statistics get an idea of what a college level senior design project entails. This Fall Noah Conner, an MMSTC alumni from the class of 2014, was completing his senior engineering design project required for graduating from SVSU as an electrical engineer. The project was titled *Air Quality Monitoring System (AQMS)*, and the objective of this project was to create a device that used air quality measurements as a method to teach students some of the basics of engineering and statistics. Since the objective was to use this as a teaching tool to encourage students to enter engineering, one of the requirements for Noah was to show it to high school students, explain how he and his team built it, and use it with the students to collect, measure and analyze the air quality in our building.

The device he and his team built measured temperature, humidity, CO<sub>2</sub>, CO, CH<sub>4</sub>, and propane in five different rooms at Butcher simultaneously. The data from these rooms' measurements were stored internally on physical storage and transmitted wirelessly using a dedicated networking protocol to a central hub. This hub displayed the data on an LCD display and delivered this data to an online database. In this way, redundancy in measurement was achieved very quickly and he could use the data obtained to allow our sophomores to analyze it.

It was great to see Noah after nearly four years and to help him with his senior design project but it was even better for our students to experience the level of work that will be expected from them and what they too will be able to accomplish in their near future.





**Name:** Elise Tomaszewski

**Home HS:** Lakeshore High School

**Year:** 2016

**College:** Attending **Michigan State University** where she is studying Horticulture and is Lab Assistant at [Michigan State University Plant Biotechnology Resource and Outreach Center](#)

**Update:** In January, Elisa was selected to receive the American Society for Horticultural Sciences' Outstanding Undergraduate Student Award. This is given to one junior or senior from each university. "I'm so honored and excited and hope to keep making a positive impact in my field."

**MICHIGAN STATE**  
UNIVERSITY



**Name:** Tori Vives, PA-C

**Home HS:** South Lake High School

**Year:** 2011

**College:** Undergrad: **Michigan State University** (Bachelors of Science with a major in Human Biology) Graduate: **Shenandoah University** (Master's in Physician Assistant Studies) Post-Grad: **Orthopedic Surgical PA Fellowship at Texas Children's Hospital**

**Update:** Becoming a Physician Assistant has truly been one of my best life decisions! I wake up every morning eager to go to work, knowing that each day brings a new and unique opportunity to positively impact a child's life. I have recently graduated from my surgical fellowship at Texas Children's Hospital (TCH) where I focused on Pediatric Orthopedic surgery; landing my dream job as their new Pediatric Orthopedic Oncology PA. While I care for all general orthopedic related issues, such as broken bones, my focus is caring for and treating children with bone and soft tissue tumors. My surgical fellowship was a one year long program where I worked anywhere from 60 to 80 hours a week, splitting my time between clinic, surgery, inpatient care, and research. Working at TCH is an extraordinary opportunity! Since it is the largest pediatric hospital in the country, we are able to see some of the most rare diagnoses that are not even explained in the textbooks. We are also a part of one of the largest medical campus; just down the road there are people finding a cure for cancer at M.D. Anderson. I honestly could not ask for a better place to be as I begin my career as a PA.



**MICHIGAN STATE**  
UNIVERSITY



**Name:** Lindsay Stoyka

**Home HS:** Lakeview High School

**Year:** 2008

**Update:** From the University of Alabama Birmingham School of Medicine, "Congrats to Lindsay Stoyka on receiving 4 years of funding for her NRSA F30 (F30AG058458: Contribution of the Interaction Between Synuclein and Tau in the Pathophysiology of Dementia with Lewy Bodies) from the National Institute on Aging (NIA). Through her research, she hopes to examine how endogenous microtubule binding protein tau interacts with pathologic variants of alpha-synuclein to lead to cellular dysfunction and death, alpha-synuclein aggregation, and cognitive decline in Dementia with Lewy Bodies (DLB)" To put this in non-NIH words, I received funding for the last two years of my PhD and last two of my MD (combined MD/PhD program). My research focuses on two similar diseases: Parkinson's Disease and Dementia with Lewy Bodies. Both have similar pathology and symptoms, but differ in the order of symptom onset. My research focuses on stopping the cell death in the brain (looking at how tau may be playing a role in the intracellular aggregates of synuclein, which cause the Lewy bodies). Our thought is that if we can stop the aggregates, it will stop the cells from dying, which will stop symptom progression. I'm focusing on cognitive outcomes with the hope that reducing expression of tau will inhibit synuclein aggregation and cell death in regions important for cognition and memory (such as the hippocampus and amygdala).



UAB SCHOOL OF  
**MEDICINE**



**Name:** Cadet Corporal Charles Debczak

**Home HS:** Center Line High School

**Year:** 2017

**College:** United States Military Academy at West Point,

**Update:** Currently a second year cadet at the United States Military Academy at West Point, I am a physics major with a minor in space science. I aspire to become an Air Defense Artillery officer in the United States Army upon graduation. The rigorous academic courses at MMSTC prepared me for the challenging academic program West Point offers. (The picture to the left was taken during Cadet Field Training this past summer, a requirement all cadets undergo coming into their second year at the academy)



**West Point**  
The United States Military Academy

# Welcome to the



# Family



**Mike May**  
**IDS Teacher**

I am thrilled to join the team at MMSTC this year as one of the IDS teachers with a focus on technology, computer science, programming, computer-aided design, and the manufacturing process. Having taught a variety of science courses at WCS in grades 6-12 including Biology, Chemistry, Physical Science, and Forensic Science, I feel that I have a lot to offer our students. In addition, I have held a variety of coaching positions during that time including MS & HS football, softball and baseball, as well as the lead mentor of the district's Robotics Team, *FIRST* Robotics Competition Team 818 since 2012.

A homegrown product of WCS, I began my career with the district as a coach and substitute teacher in the year 2000 while working towards my teaching degree. Growing up in the district I attended Susick Elementary, Grissom Junior High, and Sterling Heights High School. Additionally, I am an alumni of the third graduating class of MMSTC, and look forward to working with our select group of minds.

My Bachelor's Degree was earned from Wayne State University with certification in 6-12 Sciences with a Biology Minor. Currently I am enrolled in a Master of Education Leadership program at Marygrove College.



**Kristen Ansel**  
**Counselor**

Kristin Ansel, Teacher/Counselor Licensed Professional Counselor, National Board Certified Counselor, M.A. Counseling from Wayne State University, B.S. in Secondary Education and English and a Minor in History from Western Michigan University, Certified Love and Logic Parenting Program Facilitator.

This is my 18th year in the field of education and my first year at MMSTC. I began my career at South Lake high school in 1999 teaching English. In 2006 I began my career in Warren Consolidated Schools as an elementary counselor at Siersma, Pearl Lean and Angus. In 2012 I moved to Beer Middle School where I taught 6th and 8th grade language arts.

As the MMSTC counselor, I will be assisting students with the choices they make around educational goals, and navigating through the college selection process.

Please feel free to reach out to me with any questions and concerns. I will always return your emails and phone calls in a timely manner. I am excited to begin this journey with the MMSTC family.

# Welcome to the



# Family



**Elizabeth Iljoski**  
**Interim Director of Butcher**  
**Educational Center**

**Mrs. Elizabeth Iljoski** joined the Butcher family in January as Interim Director of Butcher Educational Center. She is filling in for Dr. Neuhoff who is recovering from a medical procedure at home. Mrs. Iljoski is already well-known by our Sterling Heights students, because SHHS is where she has been as assistant principal for the past 5 years. Before that, Mrs. I taught biology and anatomy at SHHS for 12 years.

"Butcher has a strong commitment to high-quality instruction, collaboration, and igniting students' passion for learning and growth. I am excited to join this dedicated staff, ensuring our students continue to excel within all the Butcher programs."

Mrs. Iljoski can be reached by phone at 586-698-4393 or by email at [eiljoski@wcskids.net](mailto:eiljoski@wcskids.net).



**LaKenya Davis**  
**Attendance Clerk /**  
**Bookkeeper**

**LaKenya Davis** is a familiar face who joined us in December as Bookkeeper for Butcher Educational Center. LaKenya started working for the Warren Consolidated District in 2016 as a substitute. Prior to starting in the district, she worked in the banking industry for 18 years in various operational, audit and risk roles.

LaKenya is married to a Chef named Shawn and has two wonderful children. Savanah is an 8th grade native here at Butcher and Shawn Jr is in 2nd grade.

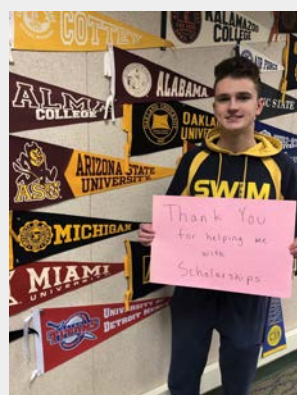
In her spare time, she enjoys cooking, reading and road trips with her family.

Welcome LaKenya!

# MMSTC is Thankful

## We are Thankful for our Counselor

MMSTC was thrilled to celebrate National School Counselor Week with Mrs. Ansel. Mrs. Ansel's days are filled with college applications, reading essays, scheduling and administering entrance exams, helping kids deal with stress and the challenging workload of MMSTC.



*The more you Thank Life,  
The more Life Gives you to  
be Thankful for.*  
-unknown

**Seniors**, led by **Ava Martellaro (Cousino HS)** took over one of Mrs. Gravel's whiteboards to write notes of thanks. It started out with just a few seniors, and the desire to **express thanks** became contagious. Soon the board was filled with words, people, and statements from not only the seniors, but the freshmen, and just about every other MMSTC student or teacher who stepped in to visit the IDS classroom.

*Our Wonderful  
Students*

*My friends because they have the same sense of  
humor as me:)*

*Friends & fantastic teachers*

*The increase of difficulty throughout the  
years has made me a much more  
cautious yet confident person*

*The people*

## What are YOU Thankful For?

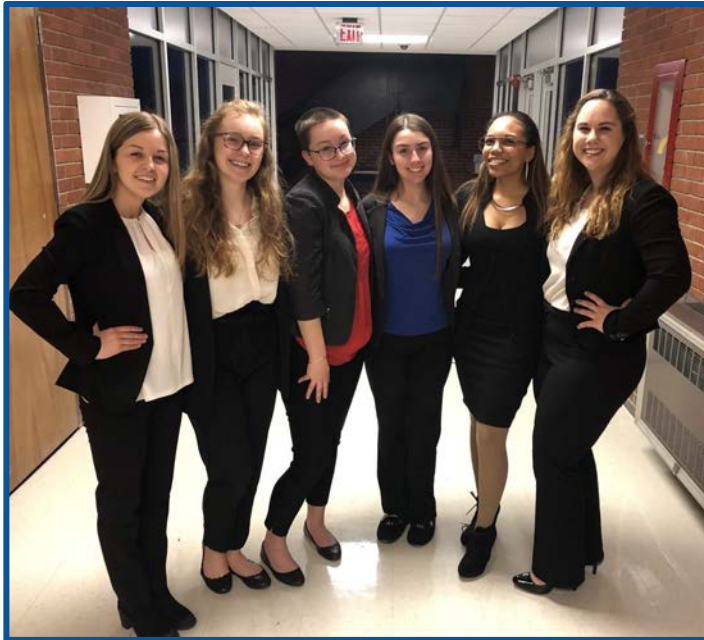
*bagel day  
the teachers*

*MY research partner!!*

*Friends and teachers*

*The amazing teachers!  
new friends*

*I am thankful for all the lovely teachers who make  
lessons engaging and truly care about the  
understanding and participation of students. The  
engaging curriculum that push students out of their  
comfort zones in a supportive, judge free environment,  
and lastly I am thankful for all of my peers and how  
supportive and helpful we all are toward each other*



## MACOMB MATHEMATICS SCIENCE TECHNOLOGY CENTER

27500 Cosgrove

Warren, Michigan 48092

[www.wcskids.net/mmstc](http://www.wcskids.net/mmstc)

**Director of Special Programs:** Dr. Catherine Neuhoﬀ  
**Editors:** Mrs. Rose Cybulski, Mrs. Kimberly Gravel-Muma  
**Contributors:** Mrs. Kincaid-Dewey, Mrs. Ansel, Mrs. Hilliard, Mr. May, Mr. Acre, Mrs. Tallman, Mr. McMillan, Mr. Estapa, MMSTC Students  
 Thank you: Support Staff & PTO



### 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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A focus on measurable student achievement in our Professional Learning Communities.

### High Expectations

Clear expectations for every stakeholder, including students, staff and parents.

### Strong Relationships

Strong relationships among all stakeholders, including: teacher-student, parent-teacher, principal-teacher, and superintendent-board member.

In compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Americans with Disability Act of 1990, the Elliott-Larsen Civil Rights Act of 1977, and the Genetic Information Nondiscrimination Act of 2008, it is the policy of the Warren Consolidated Schools that no person shall, on the basis of race, color, national origin, sex, (including sexual orientation or transgender identity), disability, age, religion, height, weight, marital or family status, military status, ancestry, genetic information, or any other legally protected category, (collectively, "Protected Classes") be excluded from participation in, be denied the benefits of, or be subjected to, discrimination during any program, activity, service or in employment. Inquiries should be addressed to the Chief Human Resources Officer, 31300 Anita, Warren, Michigan 48093, (586) 825-2400, ext 63110.