

# The Academy of Science, Research, & Medicine Chronicle

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## Welcome to the Magnet Newsletter!



Have you ever wanted to sit down and read a newsletter that had something interesting in it? Excitingly, you have come to the right place! In this issue, we have some interesting pieces such as our featured article “What will Magnet Come to Be?” by Shelby Williams.

We also have some other neat about impressive accomplishments and diverse experiences found at the PCHS Magnet Program! Go Patriots!

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## Art For The Youth

By Cheyenne Cody

Ever feel sad? Depressed? Lonely? Stressed out about school? This simple form of therapy could easily help you unwind by putting all your worries to the back of your mind and helping you to put yourself first! Art! It has been proven that simple doodles or intricate crafts can help soothe and heal troubled minds. Some activities include designing a post-card you will most likely never send, finger painting, making a collage, or drawing yourself as a warrior. Try some of these exercises and you will find them to be fun, exciting, and relaxing!

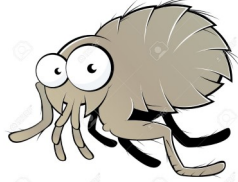


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**THE PCHS MISSION:**  
Together helping  
educate every student,  
every day, in every way,  
to ensure college and  
career readiness

### Fun Fact

Flea's can jump 130 times higher than their own height. In human terms this is equal to a 6ft. person jumping 780 ft. into the air!



## What the Biotechnology Pathway is to Me

By Marcus Morris

With the Magnet Program now STEM certified, the pathways offered have improved throughout the school year. Currently taught by Mrs. Pedersen (Essentials and Application of Biotechnology) and Mr. Pedersen (Independent Research), the Biotechnology pathway offers the chance to fully immerse yourself in the various divisions within the field of science, relating specifically to biology. After taking the first two classes with Mrs. Pedersen, I believe one of the beneficial aspects of the pathway is the unique experiences provided.

Whether it be transforming bacteria to become ampicillin resistant or engineering renewable energy utilizing biomass, the variety of labs conducted in the course truly characterize the biotechnology pathway. As I'm sure you've heard at one point or another, the equipment we have available is equivalent to that used in college and even in the field. This pathway allows us to not only learn what this to equipment does and how it "would be used" but actually use it to conduct experiments giving meaning to "learning by doing." Techniques learned during the experiments are those used in colleges and laboratories, which becomes extremely useful in independent research. Along with techniques relating to experimentation, we also learn about the correct way to document these within a laboratory notebook. Sometimes used as evidence in court, as was in the case of who invented Claritin, the notebook is one of the most important aspects in science. Combining these experiences, along with others, gives us a competitive advantage when applying to college and prepares us for publication as early as high school.

### Newsletter Spotlight

*Angelica Santiago and Jordan Perez*



This year, the State School Superintendent Richard Woods chose 142 students to be a part of the Student Advisory Council. Angelica Santiago and Jordan Perez were the only two students from PCHS to be chosen!

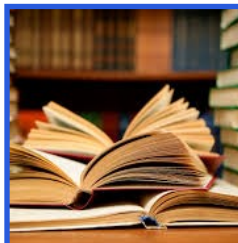
For more info: <https://tinyurl.com/y75o5oxe>

## Join YALSA! By Danielle Davis



The Young Adult Library Services Association (YALSA) has an annual Teen Read Week. Which is perfect for those of us still into reading, or to get others to read. Teen Read Week is from October 8th-14th. This year's theme is Unleash Your Story. Teen Read Week encourages teenagers to contribute to

their local libraries and even promotes reading for English learners. If you are looking for great books, I personally recommend *Enter Title Here* by Rahul Kanakia and *Crunch Time* by Mariah Fredricks to my fellow school nerds. YALSA has activities for



teens like voting for your favorite 2017 YA novel. If you want to do more, contact your local library and see if they have anything planned or if you can volunteer. The media center has also started a Library Advisory group. Ms. Church, the Media Specialist, if interested

## The Life of Independent Research

By Eli Arbuckle

The Magnet Program's biotech portion has grown significantly within the past year, and is only continuing to utilize its momentum gained from achieving STEM certification. With this new title, the program can now apply and qualify for new grants for general core classes and for the Independent Research class, something that has also exponentially grown. The Research class now holds a total of 30 students. In the class, each student or group creatively chooses a Scientific Research project that is independently based off published scientific articles, which also serve as primary resources, to synthesize and expand upon a question or problem in that area of study.

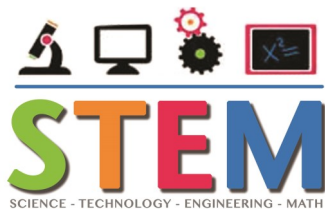
Approaching the daunting question in the course of, "What are you going to do?", I immediately decided to tackle a topic relating to something that I have always been interested in, Epilepsy. A problem within treatment of this seizure disorder is how to develop Anti-Epileptic Drugs, or AED's for short. Clinical trials in most medication development is not a viable option as common side effects to experimental treatments often prove fatal. My idea to fix this problem is to simulate brain activity in regulation of electrical signals in a specialized type of yeast through inserting a special sugar transporter to allow this yeast to act as synaptic vesicles, which are cells that help regulate

electrical signals, and are partially responsible for seizures if under malfunction.

By doing this, I can now apply the most perspired AED's to the yeast, allowing me to measure the relative sugar transport resulting from inhibition from the AED unto the sugar transporter. If sugar is not transported, the yeast will die, so the AED worked or underwent partial inhibition of the transporter. If sugar was transported, the yeast will live, so the AED did not work. The success of the AED is indicated by the inhibition of the sugar transporting function because by stopping this activity in synaptic vesicles, seizures can be prevented. By doing this, the interaction of AED's unto synaptic vesicles can be measured rather than to risk the dangers in clinical trials, proving as a new and safe alternative for early stages of AED development.

My own research is not the only exciting topic being explored by each student in the course, with other projects ranging to incite of eDNA in the PC wetlands or the effective utilization of algae for biofuel extraction. It is proven now that the Biotech Pathway is an exclusive and important chance to expand upon an already magnificence educational program. This one class is advanced, challenging, and simply just fun.

**Congratulations to the  
Academy of Science,  
Research and  
Medicine for  
becoming STEM  
Certified!**



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Newsletter?**

**Contact us at:**  
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**FEATURE  
YOUR AD  
HERE!**

# FEATURED ARTICLE

## The Future of Magnet...

By Shelby Williams

With the recent STEM certification of the Magnet program, teachers and students have begun to pave a pathway of possibilities for future students to come. The designation of the Academy of Science, Research, and Medicine at PCHS, as a STEM-Certified school, is a significant accomplishment and will certainly place the Academy among the ranks of other reputable high schools in the state.

Although the academy has attained commendable gains so far with award-winning faculty and invaluable hands-on experiences, in the next few years, the academy has the potential to grow in a myriad of ways. The academy also has the strong potential to accumulate more accolades through the many achievements of the students.

If the academy continues to attract interest from prospective scholars interested and devoted to STEM fields, the program will not only grow in numbers, but will be much more competitive and more selective in students who attend. This also means that highly-acclaimed faculty and teachers are likely to become interested in choosing the academy as a place of occupation. With this combination of high caliber

students and teachers, the academy will become a model program for any future Magnet high schools within the country.

The well-structured and rigorous curriculum will increase the beneficial external research and internship opportunities at major local universities and health facilities. These opportunities can enhance students' practical experience in the medical and biotechnical fields. It will also strengthen many students' knowledge and candidacy when applying for varying prestigious colleges and universities. Within the next decade, THE Paulding County High School Academy of Science, Research, and Medicine just might make the list of top rated schools.



Are you interested in medicine and competition among thousands of students? If so, HOSA is the right place for you! Identify your healthcare passion through community service, leadership, and skill-based learning!

If interested, see Dr. Lee, Mrs. Swena, or Mrs. Moyse for more info!

### Cyclical

By Joshua McIlrath

Ba-dum!  
A beating heart, a piston's pace,  
Ba- dum!  
A drum's rhythm, a pounding race.

Pattern is the blood of life,  
And ever is its flow.  
A breathing lung, a river's rush,  
The season's pace, the day-night glow.

To wheels and cycles we owe each thing,  
A monthly pain, rebirth's ring.  
To a sacred dance the universe sways,  
A planet's march, the holy days.

Ever is the beat of life,  
Never running through.  
Cycles are the wheels of time,  
Compelling all to do.

## The 2017 Pride of Paulding Marching Season

by Hal Gallagher

When people think of bright stadium lights on Friday nights, they usually think of the football team and excited cheerleaders. One team they might not give credit to is the marching band. After all, the band is only allowed about ten minutes of performance and sporadic stand tunes to showcase a season's worth of work.

Marching band is a physically demanding sport that requires outstanding amounts of skill, technique, and dedication. For example, orientating their feet in a certain manner affects how they move across the field. It can be the difference between staying upright or falling over! Another demand in marching band is making sure to pace themselves, according to the drum major's tempo, while making it to their placement on time (to create a perfect format within the band). This physical demand, not mentioning making music that can become quite complicated, can be amazing if done with precise balance, movement, and synchronism.

Aside from just playing at halftime, marching members have other opportunities to practice their music and technique. This includes, an hour and a half band class period, outdoor rehearsals and sometimes even during their school breaks! They meet for two weeks in the summer (the notorious band camp), and at least twice for competition.

Competition is the essence of competitive marching. The marching band spends an entire Saturday (sometimes the whole weekend), rehearsing their performance, competing against schools from all over the country and having fun! This year, our first competition was at Central Carroll High: The Superbowl of Sound. Our band was elated when we heard our band name over the speakers announcing that we received ones (the highest score) for Color Guard, Percussion, Drum Majors, and Overall Band. Not only that, but a few minutes later, we also heard our names called for first in class for all of our sections as well!

After every marching band's hard work has paid off, they proudly represent their school whether it is at a competition or on the football field. Our 2017 show "Dream On" is an excellent example of this and we have had wonderful performances this year!



Magnet Shoutout to...

The Magnet Freshmen:

Hey Freshmen, how are you? How's the program? Remember that you are extremely smart and being in this program embraces that intelligence even more... Just don't procrastinate. Procrastination is basically death in the STEM world.

## PCHS Debate and Speech

by Shaun Eisner

Here at PCHS, it is a well-known fact that we have a multitude of clubs, sports, and competitive teams. From track in the spring to football in the fall, to chess club and art club year round, PC is packed with honor societies, sports teams, and extracurricular activities. However, one team that very few people seem to know about is Paulding County's very own Speech and Debate Team. Founded three years ago, the PCHS Speech and Debate team is a competitive team that competes in a variety of events - all of which involve some kind of public speaking or argumentation. Whether it is over politics, philosophy, or even pants (yes, pants), there is always some kind of discussion happening at these meetings that you can take part in or just observe.

The best part is not the meetings: it is the competitions. As a competitive team, we compete in tournaments with other Speech and Debate teams from across Georgia in the events of choice, and there is an event for anyone and everyone. There are singular events where you compete alone, and there are dual events where you compete with a partner. The topics and formats of the events range from acting out humorous skits to giving well informed political speeches to telling stories to just regular debating. Perhaps something about this that surprises most people is that while some may want to commit themselves to just one event, you can change events or compete in multiple events as you like throughout the year. For example, I myself at the beginning of the year competed in Public Forum (a type of partner debate) but now I do Extemporaneous Speaking, a type of on-the-fly speaking event. The point is having fun and honing your skills as a speaker. It also doesn't matter whether you do it to compete, to have fun, or to just engage in some good, wholehearted intellectual discussion. Anyone can join and we encourage you to do so. If you have any interest, meetings are held in Mr. Goodison's room on Mondays. We hope to see you there!

JOIN THE BOOK CLUB!

### Overview

Together members will choose fun books to read and discuss together.

### Movies

Members have the opportunity to watch the movie adaptations of the books we read throughout the year!

Every meeting is filled with food, fun, and discussion!

Contact Danielle, the book club president, at [danielleadavis1@gmail.com](mailto:danielleadavis1@gmail.com) with any questions concerning the club

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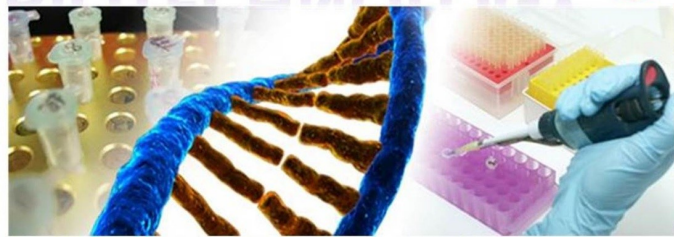
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