

Costakis shocks with construction of Tesla Coil

by Michael Blickstein

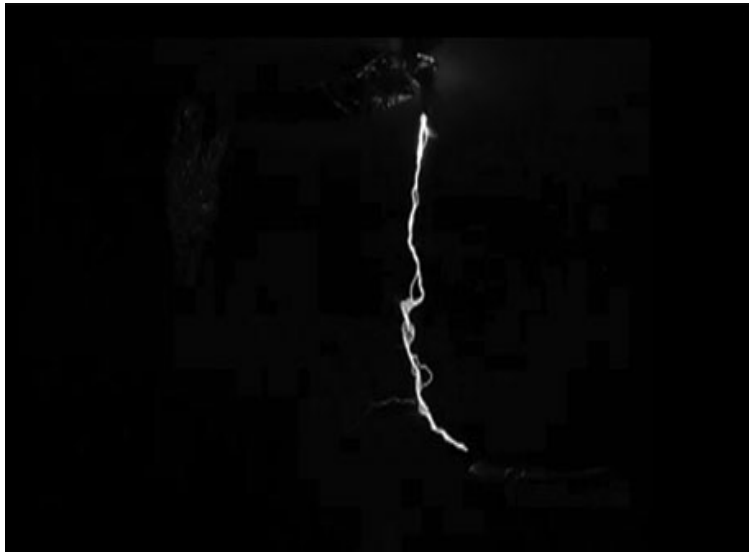
Junior Charlie Costakis built a five-foot tall, homemade Tesla Coil in his basement laboratory.

Costakis took it upon himself to build a lightning generator made of materials he found in his own home. "To the observer it might look like a giant tube covered in a copper-y color," explained Costakis.

"But they are actually turns of copper wire with a metal donut-shaped dome for the sparks to emanate from. This design steps up the voltage from the ground."

A Tesla Coil is an instrument created with the purpose of producing high frequency alternating currents. For the non-scientist, a Tesla Coil is what every sci-fi movie's mad scientist has in their lab that has dramatic sparks shooting out of it. It's not just a cool prop, but a useful scientific tool, too.

Costakis explained that the lighting strikes look instantaneous



The Tesla Coil of Charlie Costakis projecting lightning from itself | Costakis

to the observer, but there are actually over 100 sparks per minute.

"I first got really into physics and doing experiments when I was in fifth or sixth grade and my parents got me a set of snap circuits for Christmas," said Costakis, "I'd always play around and try to make

everything in the set work together."

Costakis has been interested in making a Tesla Coil since seeing videos of them on YouTube several years ago. But not everyone was on board with his aspirations.

"I could never convince my parents to let me make one, for safety

concerns. Looking back on it, I'm happy I wasn't able to do it until now because I didn't know nearly as much about electronics as I now do."

Costakis has also built an arcade machine with existing plywood, however it wasn't nearly as big of a job as the Tesla Coil.

The whole coil cost him about \$200 to build, but purchasing expensive parts from eBay surpluses made this project 10-20 times less expensive. "This is one of my more expensive projects to date," said Costakis. "But it was completely worth it and I plan to build more of them in the future."

"Charlie had never told me about the Tesla Coil. I actually brought it up to him when I heard there was going to be a spotlight on him and his project," said AP Chemistry teacher Garrett Forbes. "We also have a Tesla Coil in the classroom and we'd love for him to bring his in to compare how they work," he went on to say.

According to Forbes, Costakis's passion translates to the classroom.

"He does extremely well in my class and participates a lot," continued Forbes. "I think this has a lot to do with his practical knowledge in labs and his home set-up."

"I know last year it was more chemistry activities that he was interested in, but now I think it's more physics this year with the Tesla Coil," said Forbes.

Costakis has put a lot of work into this project. He has even learned how to play songs with the Tesla coil, most notably his rendition of the Tetris Theme Song using just lightning pitches from the coil, which he says works best for his apparatus.

"I finally got the Tesla Coil to make music," Costakis said. "And it's twice as cool in person as seeing it in YouTube videos."

"I think what's great about Charlie is that he's creative, thoughtful, and self-motivated," explained Forbes. "He will investigate things on his own and with his work ethic and the way he takes on challenges. I think he'll be very successful in the future."

Triship Christmas trees worth the trip for families

by Grace Paul

The smell of pine, the cold nipping at your fingers and toes, the rosy cheeks and holiday cheer light up New Trier from Nov 19., to Dec. 20.

Santa's Triship elves are selling Christmas trees every day of the week to families across the North Shore.

Part of the holiday is about giving, which is what Triship tries to focus on, according to Zack Struckman, a junior at New Trier who is one of the members working the tree sale.

Struckman said that all proceeds go towards New Trier Student scholarships, and that this sale is the group's most important fundraiser of the year.

"We're on track to sell all of the trees we have like last year. This fundraiser has always been immensely successful and we're trying to keep up that tradition," he said

Struckman, along with the other members will work an hour and a half to two hour shifts throughout the month to accomplish their goal for this year's sale.

"All the guys understand how important this sale is and as a result, we know we need to work hard. Honestly though, all the guys can probably agree the tree sale is the best part of Triship," he said.

With attitudes like Struckman's, it is no surprise that many New Trier families buy from Triship. However it isn't only NT families, according to Struckman. Plenty of Loyola, North Shore Country Day, and other school families come to buy the trees. Looks like some Christmas cheer can raise money and soften rivalries.

Some families, like Haley Czuma's, a junior at New Trier, keep coming back to the Triship sale every year. "We choose to buy from Triship because my parents like to help out the cause and everyone's always really sweet."

Czuma praised the service of



Seniors Jamey Minturn and Jack Dolby carrying a Christmas tree | Minturn

the boys. "It was super efficient. We had a super sweet kid help us out and we were in and out within 15 minutes."

The speedy work is only one of the reasons that her family keeps returning to buy their tree, according to Czuma. She also believes that the prices are fair and not too expensive, even though they are doing this to raise money.

Czuma recommends that other families purchase their Christmas trees from the Triship sale because they'll get a good tree for the right price, it will be a short trip, and the service is done with a smile.

Another interesting aspect of the sale, Struckman believes, is that the majority of the fundraiser is run by the students. "There isn't really a whole lot of supervision out on the lot. We're given a lot of independence and autonomy when working."

However, sponsors Scott Fricke, Kevin Hendren, and Michael Grady all handle the money. Myles Whitebloom is the Triship sponsor at the West campus, where freshmen

'We're on track to sell all of the trees we have like last year. This fundraiser has always been immensely successful.'

-Zack Struckman

are encouraged to participate in the sale and come over to help out the other members.

Struckman stressed just how important this sale is to the club, "This is by far our biggest fundraiser. This is our main event."

Anyone can stop by to get one from 3:30 to 7:00 on weekdays, 9:00 to 5:00 on Saturdays, and 11:00 to 4:00 on Sundays.

Triple A Spotlight



Todd, Dennis, and Jonathan Anastos performing at an event | Facebook

by Michael Dugan

A lot of people know New Trier as a school where students excel in any and all areas, and the music field is no exception.

Regardless of background or style, music is something everyone can embrace and enjoy, and New Trier is no exception.

Throughout the school, kids are seen carrying their trumpets, guitars, and drum sticks. It's no secret that the music department here at New Trier is successful, but there are a handful of kids who crave more than just a period or two every day of playing their instrument.

Sure, you could play at your home after school, much like sports teams practice daily, or connect the X-Box and shred it on Guitar Hero. But to some, that's just not satisfying. So, what do you do? You join a band.

A lot of people do so for those very reasons. But as is the case in most if not all trends, there are exceptions. Triplets Dennis, Todd and Jonathan Anastos can consider themselves in that group -- the three started their own band called Triple A.

"It all started when we entered a talent show," said Dennis. "We all played different instruments and figured we could put it all together and perform as a group. The original goal was just to put on a show and to have fun doing it. Although we've changed a bit through the years, I'd say our goal is still the same."

These guys aren't rookies either, they have been doing this for

half a decade. "We started playing together in 7th grade, so 5 years," continued Dennis. "However, we've been brothers a little longer than that. We started playing with Nate, our drummer, a year after that. So that's when I'd say we officially became a band."

Although it seems like all fun and games, music truly is a business, and being a part of that business in high school is serious work.

The time commitment is more than you might expect. "Although it changes depending on how often we perform, ultimately we try to practice at least once a week," he explained.

Once or twice a week isn't so bad, right? Wrong. Very wrong. Unlike a lot of students, when free time finds its way their schedules, they spend it working on the product.

"When we're not together practicing, we're thinking of new songs to play and writing originals on our own time. It can be a big time commitment when we're performing a lot, but it's time well spent."

Looking past the music and work portion of the job, it's ultimately about having a good time. The beauty of music is that artists don't need to follow strict guidelines to be successful, and that's one of the reasons Triple A enjoys what they do.

"Being in a band is a unique experience. We're able to make our own schedule and play the songs we want to. It's a lot different than other activities because we're able to do it our own way."