



SPECIAL POINTS OF INTEREST:

- 2018 FRC Challenge Announced
- Power Racing Series Challenge
- A Visit from Cory Booker
- Demo at Rowan University
- Another Guest: Sheila Oliver

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Aperture Ready to Power-Up This Season!

By Derek Ravshanov, Public Relations

Neon lights, patterned carpets, pixelated game screens-- retro arcade, the theme of FRC's 2018 Challenge, named "FIRST Power Up." This was revealed on live video at the FIRST Kick-off on Saturday, January 6. The video introduced this season's challenge, including a scale, switches, power cubes, and power-ups. Trapped inside the game, teams earn points by crossing the autoline, and then through obtaining "ownership" of the their switch and the scale on the playing field. They do this by using the bright yel-

low powercubes to weigh it down on the side of their color, earning one point per second. The power cubes can also be traded in for one of the three power-ups at the vault, located outside the field. Robots can bring the cubes to exchange station in the center on their side, while the portals in the corners on the opposite sides feed cubes into the field. The first, "Force," gains teams the ability acquire ownership of their switch and the scale, either independently or both at the

same time. "Boost" acts as a multiplier of two, while "Levitate" grants a free climb up the tower. Teams earn 30 points for escalating the tower to defeat the "final boss" to "escape the game."



The Spirit of Giving

By Derek Ravshanov, Public Relations



In the spirit of the holidays, Team Aperture went over to Project Self Sufficiency on the days of December 5th and 6th to lend some extra hands, while some members contin-

ued volunteering throughout the rest of the week, decked out in red Santa Hats and green team t-shirts. Student repaired many bicycles of varying sizes and age groups and

brought along a kit of tools to ensure optimal condition of the bikes donated to Project Self Sufficiency. In addition to adjusting seats and inflating tires, Aperture also assisted in wrapping and tying of around 30,000 toys with other volunteers. They also made stocking stuffer bags with the toys and other donated items. Ranging in ages from the group "toddler" to "teenager," PSS, Aperture, and other volunteers contributed to ensuring gifts for many children this holiday season.

Go Go Aperture!

By Derek Ravshanov, Public Relations



Racing vehicles competed September 22-24, where numerous groups of racers headed to Lafayette, New Jersey to compete against each other in karts, varying themes such as the popular video game Minecraft as well as the anime software, Vocaloid. Each team participating in the Power Racing Series Challenge has the goal of constructing an autonomous vehicle under a

restricting budget of up to \$500. There are multiple racing locations in cities and populated centers spread out across the United States, for the convenience of widespread participants. Team Aperture will be taking part in an upcoming race, and began their work on the theme for the kart in the fall. Beginning with just a children's Barbie go-kart, the team has the task of

transforming the miniature car for kids into a vehicle that high school students can ride, while also staying under the budget line. This will be completed as a secondary task to the robot for the 2017-2018 season, and will not be worked on during the build season proceeding FIRST Kickoff in January.

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www.newtonroboticsteam.org

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<https://www.tapinto.net/towns/newton>

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Rowan University Workshop

By Edward Holder, Build

On the October 6, Newton Robotics spent the day at Rowan University in Camden, New Jersey. Students Caitlin Bailey, Cameron Osborn, Derek Ravshanov, and Edward Holder presented to two separate groups of adults from Rowan University, some of whom were staff. The slideshow, titled "12 Months of Aperture," covered the progress of the team over the

course of the 2016-2017 season. The robot constructed for the FIRST Steamworks challenge was brought over to the building to demonstrate the work of the team, which begins with Kickoff in January and ends after the six-week timespan granted for building. Other slides showcased the competitions, both on and off-season, in which the team participated, along with out-

reach events. Co-captains Cameron and Caitlin spoke about the happenings of the year. Edward presented the robot and demonstrated its features and abilities, and Derek informed the listeners of the Newsletter that also recorded many of these events on a bimonthly basis. After the two presentations, the team left for home on their bus after safely packing in the robot.

Cory Booker at the Fair

By Derek Ravshanov, Public Relations

Last August, the Newton Robotics Team had a very special guest at their STEM Barn during the early summer afternoon. New Jersey Senator Cory Booker visited the group after delivering a speech to veterans at the

Sussex County Farm and Horse Show. Team Aperture and Booker continued their connection and spoke about robotics teams and their importance to the state. The team then recreated the iconic selfie with

him from his appearance and group photo with them from the year prior inside of the barn, followed by the members of Aperture shaking hands with the politician before he went off for another section of the fair.



Halloween 5K Walk/Jog

By Derek Ravshanov, Public Relations

On Saturday, October 28, runners, joggers, and walkers all gathered at the Newton High School to participate in the annual Newton Pride Halloween 5K. From 9:30 in the morning to 12:00 in the afternoon, students, teachers, and many other participants from the Newton community trekked across the certified course. With an orange t-shirt on their backs and a tracker tied up in

their shoelaces, racers began at the school's back parking lot, then went through nearby neighborhoods, receiving drinks from volunteers on the way, to finally cross the finish line back at the same parking lot. The Newton Robotics Team participated in this race under the name of ThorLabs, for which they also received a generous donation from the photonics company.



Team Aperture seeks donations to aid in the construction of the robot for the upcoming build season.

"90% of what is considered 'impossible' is, in fact, possible. The other 10% will become possible with the passage of time and technology."

-Hideo Kojima

Student Testimonial: Najah Davenport



I joined robotics my junior year of high school. I have always had a fascination in technology and construction during my youth. Joining Aperture has taught me so much about building, engineering, and business. Initially, I assumed it'd solely be

about building, but I discovered there is a lot more to it than just that. Being a part of the team, I have learned about teamwork, forming connections, building, engineering, and much more. Robotics has exposed me to numerous amazing events

and experiences that I would've never had if had not joined. For the team, I plan to create a successful business plan and fundraise to the best of our ability. Upon graduating this year, I plan to pursue in studying business or engineering as a profession.

Fairgrounds Visit from Sheila Oliver

By Cameron Osborn, Co-Captain

During Aperture's ten days at the Sussex County Farm and Horse Show, Lieutenant Governor-elect Sheila Oliver visited the team. Two team members, Cameron Osborn and Alexander McCully spoke to Oliver about their roles on the team, and handed her a bind-

er of team literature and recent publications. This was an important event for the team due to the plan shared by Oliver and her running mate Phil Murphy to revitalize New Jersey's STEM economy. Since the team's exchange with Oliver, both Murphy and Oli-

ver have been elected to govern the state of New Jersey.



Recent Events
August 2017 - January 2018



Nicki from MugsMedia interviews Aperture at the Fair



Co-Captains Caitlin and Cameron with Senator Steve Oroho



Team Aperture serves as referees at the FLL Qualifier Event at Sparta



Newton Robotics Team
FIRST Robotics Competition/FIRST
Lego League

**"Make it
happen!"**

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Since 2009, the mission of the Newton Robotics Team has been to pave the way for its members to become leaders in science and technology, working cooperatively with one another, fellow teams, and technology professionals to promote STEM, provide education and opportunities for our nation's youth, and carry out the mission of FIRST. The unique talents and skills we acquire are for the advancement of our members, other teams, and the community. By enacting our mission, we will accomplish our vision of spreading the importance of STEM across the globe.

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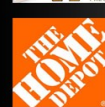
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The Newton Robotics Team