

News Obits Opinion Workweek Sports Look Go-Guides Photos & Videos Fee

St. Peter's teams among top finishers at state robotics championship

Monday, June 24, 2019

St. Peter Catholic School teams recently finished among the top schools at the NC FIRST Lego League State Championships in Greensboro

Wiredcats Green team finished fifth out of 60 teams in the robot game, and the Wiredcats Blue team finished 14th. Wiredcats Green's score of 171 was the seventh highest robot game score of the 120 teams that qualified. The Wiredcats Green team also got a judging callback because of its engineering project which included a working model of robotically adjustable liquid lens glasses.

Both Wiredcats teams qualified for the state championships because of their performances at the Winterville regional NCFLL qualifier tournament, where Wiredcats Green won the champions award for best overall team and Wiredcats Blue won the first place innovative solution award for its research project.

Wiredcats Green members are Alex Cooper, Jamie Galinis, Jeremiah Reid, Gerald Reiling, Jake van Reed, Michelle Saucedo-Trinidad, Jackson Schreiber, Will Wright and Sunook Yoon.





The St. Peter Wiredcats Green and Blue teams go head-to-head in a robot game round at the 2018-19 NC FLL State Championships in Greensboro on Feb. 3

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Wiredcats Blue members are Brayden Boykin, Wright Collins, Carson Koesters, Tiago Marlow, Jasmine Pandya, Ryan Scargle, Rylan Tuten and Mark Warren.

Faculty member John Bell is head coach, assisted by Katie Howard and Chelsea Haigwood, as well as parent volunteers Kevin Pandya and Bernardo Saucedo.

Article from *The Daily Reflector* of Greenville, NC – Originally published in newspaper on February 18, 2019 Posted on www.reflector.com on June 24, 2019

To enlarge the photo, please visit the link at

http://www.reflector.com/Look/2019/06/24/St-Peter-s-teams-among-top-finishers-at-state-robotics-championship.html



St. Peter Catholic School Wiredcats Green members are Alex Cooper, Jamie Galinis, Frankie Kennedy, Jeremiah Reid, Gerald Reiling, Jake van Reede, Michelle Saucedo-Trinidad, Jackson Schreiber, Will Wright and Sunook Yoon. Coaches are faculty members John Bell, Chelsea Haigwood and Katie Howard and parents Kevin Pandya and Bernardo Saucedo.

Local robotics teams will advance to state contest

Sixteen teams from across eastern North Carolina competed in FIRST LEGO League competitions at South Central High School on Nov. 10.

Three local teams from the competition will advance to state competition. They are: St. Peter Catholic School's Wiredcats Green, A.G. Cox Middle School's First Raiders and the Ace Benefactors of Greenville. The alternates are St. Peter Wiredcats Blue team and Eastern Elementary School's Flock of Eagles.

Wiredcats Green also won the first-place champions award, the award for best overall team of the 16 teams in the tournament.

This year's theme was "Into Orbit" to honor the 50th anniversary of the moon landing on July 20, 1969.

"The teams had to find the answer to a problem humans would encounter in human spaceflight," said event director Bill McClung, "They had to build a robot to complete the challenges that were on the table."

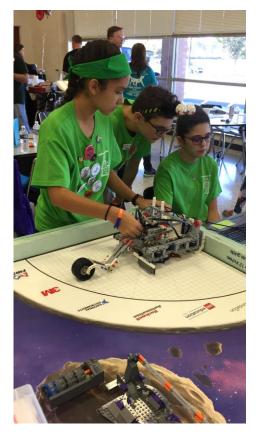
Pitt County's teams received several awards.

Heath Carroll of Greenville was named Coach of the Year. His team, the Ace Benefactors, also won Best Inspiration and Core Values and Top Robot Performance.

The Astrobots of E.B. Aycock Middle School won the Rising Star award, and the Robodogs of C.M. Eppes Middle School won the Teamwork Award. Bots and Bows, an all-girls team from Winterville, won the Research Award, while the St. Peter Wiredcats Blue team won the Innovative Solutions Award.

The Flock of Eagles from Eastern Elementary won the Mechanical Design Award. Kevin Daniels was named Volunteer of the Year. Sasha Surkin was named Young Adult Mentor of the Year.

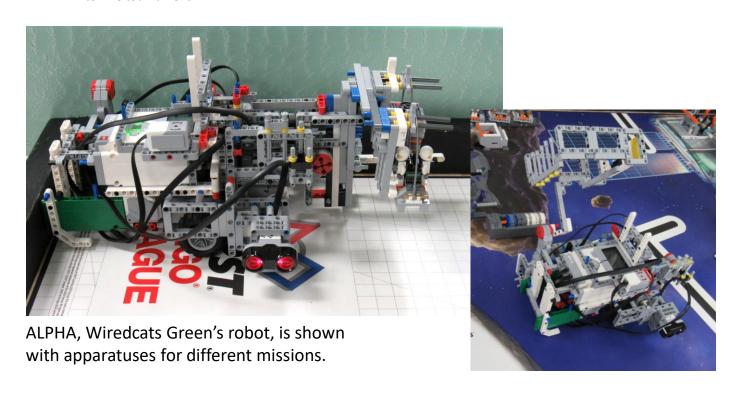
Wiredcats Green Team 24694





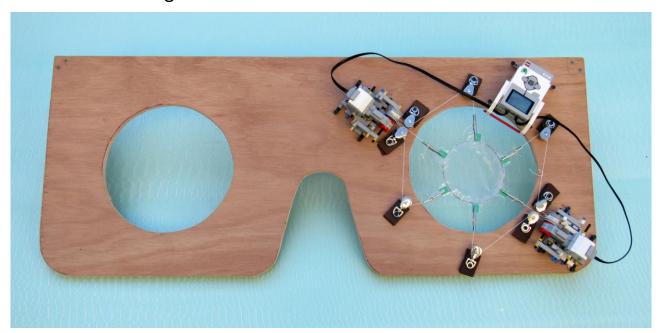
Wiredcats Green members watch as their robot runs during a competition round at the Winterville tournament.

Team members are shown in the pit area tweaking their programs and structure between competition rounds at the Winterville tournament.



Galaxsee Robotic Liquid Lens Glasses

Our physical model of the Galaxsee Glasses uses glycerin wrapped in vinyl as a lens that adjusts using motors controlled by a robotic brick. When the motors pull the strings, the glycerin moves toward the center of the lens, making it more convex. With sensors for detecting the lens' distance from objects, the eye's distance from the frames, and the movement of the pupils, glasses like ours could help space travelers with the problem of pressure on the eyes caused by liquid from the brain. This condition happens during long stays in zero gravity. It changes the shape of the eye and causes farsightedness. Convex lenses are then needed.

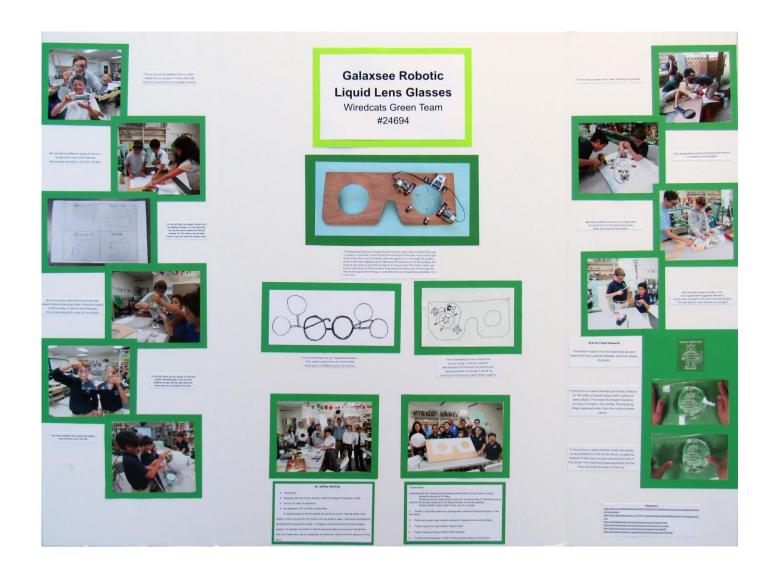








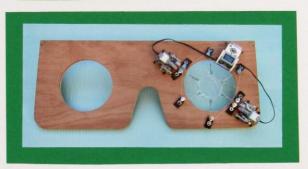
Wiredcats Green Team 24694 Project presentation board

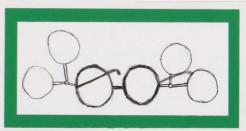


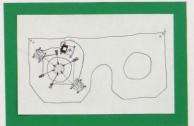
Wiredcats Green Team 24694 Project presentation board (center panel)

Galaxsee Robotic Liquid Lens Glasses

Wiredcats Green Team #24694











Wiredcats Green Team 24694 Project presentation board (left and right panels)



Wiredcats Blue Team 23368

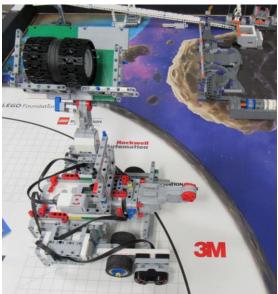




Wiredcats Blue members wait for a robot competition round to begin at the Winterville tournament.

Team members are shown in the pit area adjusting their robot's structure between competition rounds at the Winterville tournament.





BOB, Wiredcats Blue's robot, is shown with apparatuses for different missions.

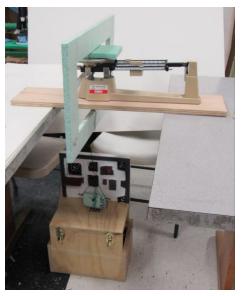
Wiredcats Blue Team 23368

The Gravsuit

Preventing muscle atrophy and bone loss in zero gravity with an electromagnetic floor and a suit with ferromagnetic metal weights



Our electromagnetic floor model

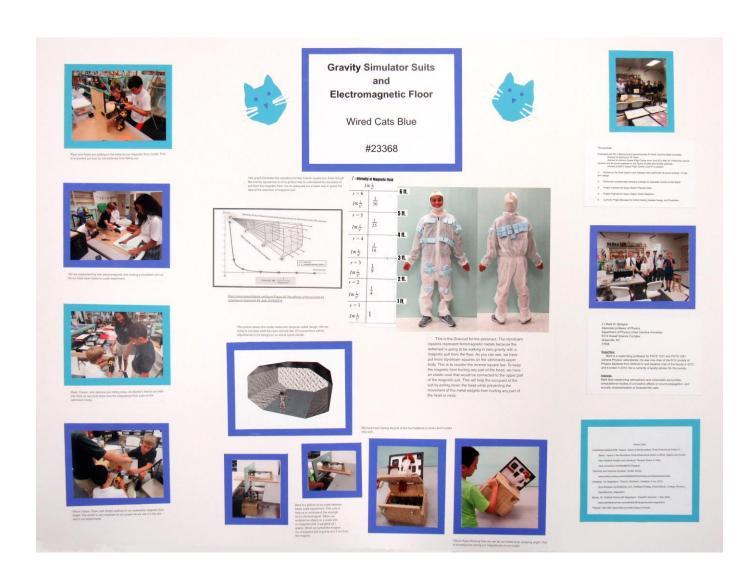




A Gravsuit with Styrofoam which represents metal

Measuring the strength of the magnetic pull at a certain distance from the floor

Wiredcats Blue Team 23368 Project presentation board



Wiredcats Blue Team 23368 Project presentation board (center panel)



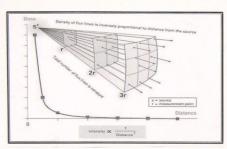
Gravity Simulator Suits and Electromagnetic Floor

Wired Cats Blue

#23368



This graph illustrates the equations for the inverse square law. Even though the inverse square law is not a perfect way to understand the decrease of pull from the magnetic floor, it is an adequate but simpler way to grasp the idea of the reduction of magnetic pull.



https://www.researchgate.net/figure/Figure-26-The-effects-of-the-inverse-sq uare-law-on-exposure-49 fig9 307466518 I = Intensity of Magnetic Field

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The picture shows the model made with computer aided design. We are trying to simulate what the room will look like. Of course there will be adjustments in the design on an actual space shuttle.



This is the Gravsuit for the astronaut. The styrofoam squares represent ferromagnetic metals because the astronaut is going to be walking in zero gravity with a magnetic pull from the floor. As you can see, we have put more styrofoam squares on the astronauts upper body. This is to counter the inverse square law. To keep the magnets from hurting any part of the head, we have an elastic cowl that would be connected to the upper part of the magnetic suit. This will help the occupant of the suit by pulling down the head while preventing the movement of the metal weights from hurting any part of the head or neck.

We have been testing the pull of the four batteries in series and it works very well.





Here is a picture of our triple balance beam scale experiment. This was to help us to understand the strength of our electromagnet. When we weighed an object on a scale with no magnetic pull, it weighed 221 grams. When we turned the magnet on, it weighed 223.4 grams at 0.7 cm front the magnetic pull.





This is Ryan showing how we can tip our model at an amazing angle. This

Wiredcats Blue Team 23368 Project presentation board (left and right panels)



- 3- Project Engineer for Space Station Payload racks
- 4- Project Engineer for Space Station Node integration
- 5- Currently Project Manager for NASA Docking Adapter Design and Production



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Expertise:
Mark is a supervising professor for PHYS 1251 and PHYS 1261
General Physics Laboratories. He was vice chair of the ECU society of
Physics Students from 2009-2012 and became chair of the faculty in 2012
and it ended in 2014. He is currently a faculty advisor for the society.

Interest:

Mark likes researching atmospheric and underwater accountists, computational studies of convective effects on sound propagation, and acoustic characterization of Scianaid fish calls.

Works Cited

trical Symbols," Scribd, Scribd.

Magnetism." Physics Libre Texts, Libretexts, 9 Jan. 2018.



Ryan and Rylan are putting on the locks for our magnetic floor model. This is to prevent our four six volt batteries from falling out.





Ryan, Carson, and Jasmine are drilling holes into Barbie's feet to put nails into them so we could show how the magnetized floor pulls on the astronaut's body.

