

## Team 9721 Green Mountain Gears

The Green Mountain Gears are a FIRST team that have been together for 5 seasons of FLL and 5 seasons of FTC. The team strives to increase their capacity for problem solving by taking the hardest classes available to them while learning other valuable skills through their extra-curricular interests.



### 2012-Senior Solutions

The team finished dead last at the NH qualifier at Nashua. Their project was a Scratch choose your own adventure based on the lives of seniors they interviewed. The game was designed to help the seniors connect with their extended families.



### 2013-Nature's Fury

The team designed a video game on Scratch that taught students how to prepare for a natural disaster.

The team won the Judges Award at the Nashua Regional Event.



### 2014-First Class

The team won the robot design award at the Nashua Regional Qualifier.

They designed a game using GameMaker where an ally converted bystanders into other allies to combat bullying at school.



### 2015-Trash Trek

Team won the VT State FLL Championship and were Semi-Finalists in the Global Innovations Award for an app they created to teach people how to sort waste. The game was launched on both the Apple Store and the Google Play score. The app was created in Unity.



2016-Animal Allies FLL

Programming Award at Vermont State FLL Championships

Team designed a 3D printable bee box to help people get over their fear of bees.



## FTC History



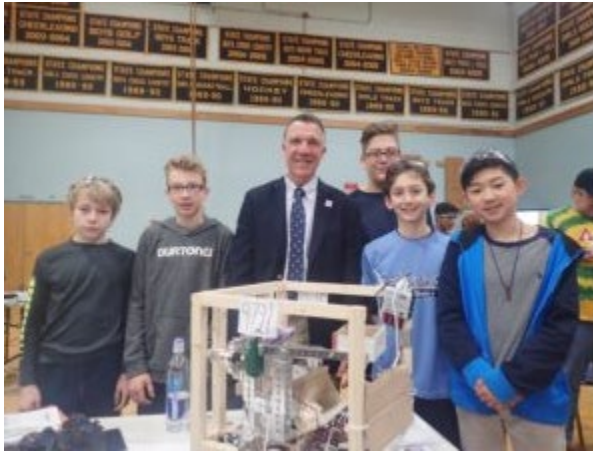
2014-2015 Cascade Effect

Team built a lego based FTC robot. The robot operated but did not earn any points.



2015-16 ResQ

Team build a tetrix robot with off-road tires that could climb the ramp and hang.



### 2016-17 Velocity Vortex

The team build a robot with a wood frame that could used a cam gear and a spring to fire wiffle balls into a scoring device.

The team discovered that they could score points by hitting the beacons.



### 2017-18-Relic Recovery

The team built a tetrix robot that used color sensors and motor encoders to operate during autonomous.

The robot stacked blocks during teleOp.

The robot parked on the ramp in end game.

The team won the “Best of Vermont” Award.



### 2018-19-Rover Ruckus

The team designed a robot that integrated tetrix and REV materials.

During autonomous, the robot lowered itself and used tensor flow to identify and deliver minerals using motor encoders.

During teleOp, the robot placed minerals in the correct location.

During end game, the robot lifted itself. The team won the "Best of Vermont" award for the 2<sup>nd</sup> year.



### 2019-20 Skystone

The robot can do the foundation and skystone during autonomous.

During driver control, the robot can stack 4-5 stones and drive under the alliance bridge.

During end game, the robot can place the end cap on a stack, move the foundation and park.



Ethan Behr

Ethan has participated in FIRST programs for 9 years, 3 in FLL, and 6 in FTC. He enjoys other activities such as playing piano and trumpet for various musical groups and setting such as the FlynnArts Jazz Combo and the St. Michael's College Chapel Liturgical Chapel. He is currently a senior at Rice Memorial High School. His favorite author is Kurt Vonnegut. Ethan will be attending Boston College in the fall of 2020.



Andrew's Bio

Hi! I'm Andrew. I'm a junior at South Burlington High School and I've been with this team for eight years. Something I really enjoy to do in my free time is to write music. I write classical musical through the Music-COMP, a Vermont based mentoring program. I also make jazz and funk music with a couple of my close friends. I play the guitar in my jazz band and the clarinet in the high school Wind Ensemble. Another thing I enjoy is playing sports. My main sport is volleyball. I've played for the Vibe VC travel team and play for my high school varsity team.



Luke Fitzgerald

Luke Fitzgerald is from South Burlington and is currently a Sophomore at South Burlington High School. In addition to robotics, Luke plays soccer and baseball, enjoys theater, loves skiing and being outdoors in nature, goes fishing, plays piano and clarinet, and participates in Odyssey of the Mind. This is his 9<sup>th</sup> year of FIRST but his 12<sup>th</sup> season. He did Junior FLL for 1 year, FLL for 5 years (3 of which he did while simultaneously doing FTC), and is now in his 6<sup>th</sup> season of FTC. One of the favorite classes he's currently taking is AP Physics, and he has been really excited to incorporate the new concepts he's learned into the engineering notebook.



Kenny Chamberlain

Hi I am Kenny, this is my ninth season of FIRST and my seventh year with this team. I am a sophomore at South Burlington High School. Something I enjoy doing is Math, I am on my school's math league team and I made it to nationals for Math Counts two years ago. I am currently taking AP Calculus in school and I made it to ARML as one of the members of the Vermont team. Another thing I enjoy doing is sports. My favorite sport to play is currently Ultimate Frisbee where I play for my high school's JV team, but I also enjoy playing ping pong and I am in the club that my school started up last year.





Paul Fitzgerald

This marks my (3 season of Jr. FLL, 6 seasons of FLL, 6 seasons of FTC) 15<sup>th</sup> season of FIRST. I taught math and science for 16 years before founding Teams of Innovative Problem Solvers (TIPS).

I studied Applied Marine Ecology at UMass Boston and earned an M.Ed. in 1998. I earned a BS in Biology with a Minor in Chemistry from UNC-Chapel Hill in 1995.

I also coach chess, mathematics, baseball/softball, soccer, Odyssey of the Mind and I play both violin and guitar.