

Open Hearts, Open Minds: Intuitive Surgical

By Angie Leung '20 & Natasha Dunn '20

On October 5, nine members from Presentation Invasion attended the Intuitive Surgical Open House where they discovered how robotics is utilized in the medical field.

The event was for FIRST FRC teams who are sponsored by Intuitive Surgical, and consisted of three sessions throughout the day. To begin, three engineers spoke about their individual journeys, explaining how each of their unique paths through college ultimately led them to Intuitive Surgical.

For the high school students in attendance, who were just beginning their paths towards their future careers, this information gave valuable insight into the world of work and career exploration. The event continued with the last two sessions involving hands-on experience with real Intuitive Surgical robots and tools. The students had the opportunity to control both virtual and manual robots used during surgeries and see how they function on everyday items, such as rubber bands.

The most notable experience for the students was the contest at the end-of-the-day challenge in which teams built a one-hand device to lift marbles from the floor to a table. The contestants were timed on how fast their device could accomplish the objective as well as how many marbles the device could carry. This challenge was a fun way to try various engineering concepts, such as problem solving and prototyping, as well as an opportunity to get to know students on other FRC teams.

Lydia Korinetz, '23, noted how being flexible is integral to the building process: "When prototyping, not everything is going to go your way."

After practicing microscopy firsthand, Maya Sharma, '22, recalled that her most memorable experience was manipulating the claw-like mechanisms of the robot. When her team sought to design the aforementioned contest device, she said that the challenge was



“nerve-wracking, but also a lot of fun.” In addition to learning how to effectively utilize pulleys, she also emphasized the role of communication in team projects.

From a mentor perspective, Jeanne Mullins viewed the three young engineer speakers’ unique pathways to their STEM line of work as an inspiration for the team members to be open to new career opportunities.

Commenting on how they did not take the traditional highschool-to-4-year-college path through college, she noted, “You have this plan, but what happens is not the plan, and that’s okay...Don’t worry about having this exact plan. Sometimes it’s just who you meet and what you end up doing.”



Shining a Light on #WomenInSTEM

By Angie Leung '20, Natasha Dunn '20 & Shreya Dixit '22

With a little guidance, even two-year-olds can drive robots.

On October 5, Presentation Invasion gave back to the community by motivating young minds and nurturing the future of robotics. Eight team members worked Girl's Day at the Tech—an event hosted by the Tech Interactive to bring awareness of STEM opportunities to girls and highlight the achievements of women in the field.

During this event, the team demonstrated their latest robot, Nebula, and gave children an opportunity to drive and operate the robot. The team members acted as role models of women in STEM, working patiently with young children as they got a taste of working in robotics. This was an important outreach event for the team and a great way to give back to the community.

The kids were fascinated by Nebula and were eager to play with it despite their lack of experience with robotic mechanisms. Presentation Invasion hoped to inspire the young kids to pursue STEM-related paths by introducing them to robotics. They helped the young girls drive the robot, taught them control commands, and demonstrated how to operate Nebula. By the end of the event, the team was surprised by how the young kids deftly maneuvered the robot.

Young women founded Presentation Invasion on their interest in STEM, and through Girl's Day at the Tech, they extended their interest to future generations by showcasing what an all-girls robotics team can do.



Practice, Practice, Practice...Field

By Angie Leung '20

Since the summer prior to the off-season, the backyard of the Jenvey House underwent transformation: from mere concrete to a brand new practice playing field.

These efforts to build a field mimicking a quarter of the Deep Space game arena were thanks to team members' parents' monetary contributions.

The team especially thanks Shanawaz Kareem (Alisha's Dad) and Neetha Anandakumar (Rithu's Mom) for taking the initiative to organize a way to strengthen the team's performance.

In addition to chaperoning the Capital City Classic competition in October 2018, Mr. Kareem and Ms. Anandakumar also organized, fundraised, and coordinated with the Presentation administration to execute the project.

Over the summer, the PHS facilities team built the wooden deck and assembled the tent cover. In the fall, team members and parents added the railing.

Now, amidst the team's preparation for the upcoming MadTown Throwdown competition, the team finished building the field, such as lighting. The two drive teams have already utilized the playing field to practice driving the robot and delivering hatch panels and cargo to get ready for their last off-season competition.

Additionally, Team 254 - The Cheesy Poofs (Bellarmine) donated its old practice field carpeting. The backyard now has the proper game structures for the drive teams to adequately practice driving the robot.



In order for the team to practice driving the robot, it had to go to the PHS library, where it lacked field pieces. The team is grateful that it now has more complete and convenient facilities.

The team thanks the PHS facilities team, all of the parents who were involved with the field's construction, Mr. Kareem and Ms. Anandakumar for their dedicated efforts in leading the backyard project, and Team 254 for their gracious professionalism!



As Seen at CCC

By Natasha Dunn '20, Sage Martin '22, Angie Leung '20 & Pallavi Saksena '20

On the weekend of October 18 to 20, the team participated in their first off-season competition of the year: Capital City Classic (CCC). The tournament was hosted by Team 2073 - Eagle Force, Team 1678 - Citrus Circuits, and Team 3859 - Wolfpack Robotics in Elk Grove.

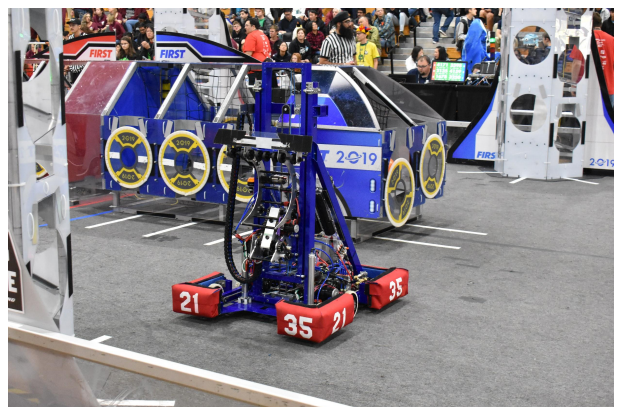
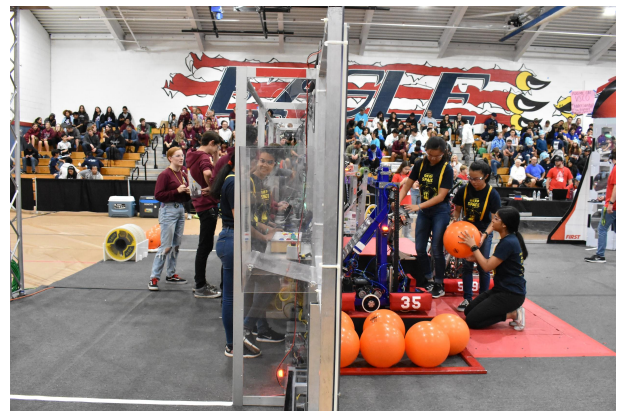
The off-season competitions are a great way for team members to gain experience and for new members to learn how competitions work.

The team competed with their robot, Nebula, and many members tried out new roles on the drive team and scouting team. This gave them more chances to practice driving the robot and work under pressure, as well as gain a better understanding of how competitions work.

CCC also has annual workshops that the team attended throughout the weekend. These workshops included topics about student leadership, strategic design, prototyping, and fundraising. Team members learned some good information from these workshops, and hope to apply this knowledge to our team. The team also gained valuable advice about how to improve its performance at competitions, and how to adjust to the upcoming build season without a Stop Build Day.

Nandita Jayanthi '21 expressed how helpful it was to attend this competition: "CCC was a really great opportunity to reach out and learn about other robots. The workshops gave us inspiration for both this season and next season's robot."

The team performed well throughout qualification matches and enjoyed the experience. They are looking forward to their next offseason competition, Madtown Throwdown!



Robotics Educates & Inspires Open House Attendees

By Sowmya Shankar '20, Natasha Dunn '20 & Angie Leung '20

For the first time in history, the robotics workshop was included as a part of the Presentation Open House tours on Sunday, October 27. The in-shop tours were run by team members, who explained what the robotics team does and what tools they use to do it.

Team members led tours of the workshop and the various machine tools. The tours also included brief descriptions of each of the subteams and examples of their recent work. They ended with a demonstration of the most recent robot, Nebula, in the new backyard practice field. Members explained how the robots operated, impressing not only prospective students and parents, but also faculty members that attended as well.

In addition to hosting the tours, students showcased an older robot, Max, in the school courtyard, allowing for a more interactive experience. Interested students were able to drive the robot around and ask any questions they had about the robot or the team. Parents asked plenty of questions, and their interest in the team and the students' work was evident. Team member Divya Mullapudi '22 reflects on her experience representing the team at this event. She stated, "Open House gave members a chance to reach out and bond with girls over the common interest in STEM."

