The Celt-X Knot

Keeping you linked with Bishop Ryan Robotics
Volume 1, Issue 1, October 2016

The new school year is well underway, and Celt-X continues to make a name for itself. We had an amazing season last year, and are already off to a great start for the upcoming season. This is the first edition of what we hope will be a regular newsletter that recaps notable events and informs about upcoming ones.

Table of Contents:

Replay Highlights

Celt-X is entering our third year as a team, and we are getting bigger and busier! In this section we'll recap some of the amazing things this team has accomplished recently.

Summer

2016 was the first year the team met over the summer, and what a rewarding decision that was! With no competition deadline looming, the team was able to stretch our skills in a relaxed atmosphere.   Our Tuesday night meetings carried last season's momentum into new, ambitious projects, including:

- **Robodrome improvements**
  The Robodrome Robotics Centre, located in the old Holy Family School, is really starting to come together.   Our students spent the summer tearing down old furniture, hanging new chalkboards, and building new storage. We added some new metal-working machines and started with repairs on others.   There is still work to do, but we hope to be ready to start using the Robodrome for build projects in November.

- **Business plan and sponsorship package**
  We developed an incredibly slick sponsorship package and went over our projected revenue and expenses. It is anticipated that we will need approximately $70000 in revenue for the season.   Our new business plan, which will detail our goals for the next few years, is still in development

- **Sponsor care**
  We treated four of our biggest sponsors to barbecue / ice cream lunches: McMaster Innovation Park, Mohawk AMRC, Stern Laboratories, and CIBC.   These visits provided great opportunities to thank sponsors for their support, show them our robot, and tour their facilities. We were well received by all of these sponsors, and anticipate their continued support. We expect to be featured in Mohawk college's 2016 community report.

- **Outreach and Engagement**
  Celt-X was invited to present at a summer coding camp for elementary students. We demonstrated our robot and shared a few experiences from our season.   We also had the great fortune to showcase "STEM Education" in action with the Minister of

Education. We took our robot down to St. Luke's and the minister was delighted to drive it around.

- **T-Shirt Cannon Project**
  By popular request, our students decided to build a T-shirt cannon to engage groups at our presentations and to explore various projectile launcher designs. We built a wheeled version and a pneumatic version, and after some tweaking we were able to get both shooting T-shirts over 75 feet!   After mounting one of the cannons on our practice robot, and the other on a mobile "mortar" platform, Celt-X debuted our T-shirt cannons at Bishop Ryan's extracurricular fair and football games on September 30th.   The Cannons were a huge hit with the crowd, and our students received a mention in the Stoney Creek News!

September

Although it has only been a few weeks since the start of the new school year, robotics is already in full swing.

- **Student Recruitment**
  We had an aggressive recruitment campaign, and attracted many new students. Our roster is currently around 45 students.

- **STEMley Cup Planning**
  We have been planning the details the STEMley cup which we co-host with St. Mary's. There's more information about the STEMley Cup later on in this newsletter

- **First Fun Meetings**
  Our first meeting for new members took place on September 20, and we've been meeting at 3pm Tuesdays at BR since then. The team has been using these meetings to learn about FIRST Robotics, discover the "Engineering Design" process, and to have fun. We've held a "Marshmallow Challenge", where groups of students tried to build the tallest tower with only a few sticks of spaghetti, string and a marshmallow.   We've also conducted a "Mock Kick-Off", which took students through the announcement of a previous year's FRC game, analysis of the rules and strategies, and brainstorming potential robot designs.   The results show that we are in great shape for the new game announcement on January 7th.

- **Parent Meeting**
  We held a parent meeting on September 27th meeting to introduce new parents to the mentor team, to returning parents, and to each other.   If you missed the meeting, don't worry. We'll conduct another one in January.

- **Trade School**
  'Trade school' is our name for the Celt-X skills classes that our students complete. For

the first 2 weeks, students will rotate through each of four sections. This year we are focussing on:

- ○ Solidworks/3D modelling - students will be introduced to the basics of design and shown how to model parts and assemblies on a computer.

- ○ Electrical/Programming - students will see how the basic control systems of an FRC robot interact and learn the basics of the underlying software.

- ○ Media/Video editing - students will learn a little about the process of designing a storyboard, photographic composition, and video rendering

- ○ Business/Awards - students will learn about the basics of Celt-X's finances, will explore various grants, will prepare parts of our awards applications, and will reach out to potential sponsors

- ● **Safety Training**
  During our trade school, students will also be completing the necessary safety certification. Students must complete written quizzes on each machine and then must

complete a practical evaluation. Successfully completing the safety certification is one of our requirements for students to 'earn their jersey'.

Team Fees & SchoolCashOnline

The registration fee for each team entering the FIRST Robotics Competition is $7500. In order to cover this cost, we levy a team fee of $175 to each member of Celt-X. This fee will allow your student to participate in team activities, and will entitle them to a team T-shirt.   **Team fees are due by October 23**.

Students must also sign up for the team, and accept our Code of Conduct, using the form here: https://goo.gl/forms/kMhgl2WtHOtjH3Pz1

Unfortunately the Team Fee does not cover bus and food costs when we travel to events, but we will do everything possible to keep these costs to a minimum, and will let you know what these will be when we get closer to departure. Neither does the fee cover optional "swag", including jerseys, hoodies and ball caps. These will be available for students, parents and friends of the team to purchase in January.

The school board collects electronic payments through SchoolCashOnline (https://hwcdsb.schoolcashonline.com). It is preferred that all fees paid to Celt-X Robotics (e.g. team fees, trip fees, etc.) are submitted electronically through SchoolCashOnline. SchoolCashOnline accepts Visa/Mastercard or electronic funds transfer (eChecks).

"Earn Your Jersey"

In order to promote the ideals of gracious professionalism, coopertition, and to cultivate the ideals of social responsibility, we recognize that being a part of a team is measured by actions. In addition to registering and paying the team fee, we expect members of Celt-X to carry themselves in accordance with our code of conduct, to volunteer their time to foster STEM, to complete their safety certification, to assist in making sponsor calls, and to take responsibility for our workspace.

Only students who meet our (soon to be published) criteria for participation and conduct will earn the right to wear the very exclusive Celt-X jersey at competition this year.   So watch out for our sharpest dressed team members - they will be modelling the best qualities of Celt-X.

Upcoming Events

Rochester Ruckus

In a few short weeks, on October 29, we will be attending our first off-season event, Rah Cha Cha Ruckus in Rochester, New York. There will be teams from across Canada and the United States present, and this is an excellent opportunity to get a feel for what a FIRST robotics competition is like. In order to minimize costs, be as inclusive as possible to our new members, and foster team bonding, we will be travelling to Rochester together, by bus. The cost per person is $75 (due by Oct. 26), and includes one bus seat and breakfast. Parents and siblings are encouraged to join us, however, please be advised that we have limited seats and students will be given first priority.

STEMley Cup

On November 12, Bishop Ryan's Celt-X Robotics team and St. Mary's Makeshift Robotics will be co-hosting our own off-season event for the second year. There will be around 30 teams from across Ontario playing last season's game. The event is free to the public and we highly recommend attending. Additionally, this is an amazing opportunity to showcase robotics to any potential local sponsors. Last year we had an amazing turn out - we filled the stands to capacity, had local VIPs (including the mayor) in attendance, and were featured in several news outlets. Students are strongly encouraged to help setup and run the event on the Friday or Saturday (and will receive volunteer hours).   You can find out more information at https://stemleycup.wordpress.com

Bake Sale

We will be holding a bake sale during parent-teacher interviews, from about 5:30PM to 8PM on October 27. Parents are encouraged to support us in whatever way possible. If you are aware of any businesses that would be interested in sponsoring our team, please let us know

Halloween for Hunger

Students are encouraged to participate in Bishop Ryan's Halloween for Hunger. This event collects non-perishable foods for local food banks. Students will need to sign up with the student council, and will distribute Celt-X branded flyers to inform people of the event. It is recommended that students who choose to participate only go out in groups.

FLL Practice Tournament

We foster robotics in several of Bishop Ryan's feeder school's through our students' mentoring of Lego Robotics teams. Students are encouraged to work with elementary students and teach them about professionalism and design while guiding them through the construction and programming of Lego robots. We will be hosting a Lego Robotics practice tournament at the Robodrome in the upcoming weeks and will also be judging at the Hamilton Qualifier that will be held at Cardinal Newman on December 10.

Group Build Project

In November, Celt-X students will embark on a 4 week, small group build challenge. They will need to produce engineering drawings of a model, use those drawings to fabricate a simple "chassis", wire up the controls, and program their creation. Each group will present their creation and then compete against other groups.   This is our first time trying this challenge, and we're excited to get started!

Mentoring St. Jean de Brebeuf

As we continue to foster robotics in our schools and community, we will be mentoring students from St. Jean de Brebeuf as they work towards launching their robotics team next year. Students from Brebeuf will be joining Bishop Ryan's Celt-X Robotics team as members for the upcoming season as they learn the ins and outs of building a robot. Our students will serve as role models of gracious professionalism and coopertition

Our 2017 Competition Dates

Our 2017 competition season, 'Steamworks', kicks off on January 7th. Within our district, we will be competing at Georgian College (Mar. 24-26), McMaster University (Apr. 7-9), and possibly a third event to be determined.

More!

November and December will bring even more activities to the Celt-X calendar.   Keep your ears open for more "build day" Saturdays at the Robodrome, a team dinner and social, and some more robot demonstrations and fundraisers.   Lots to do!
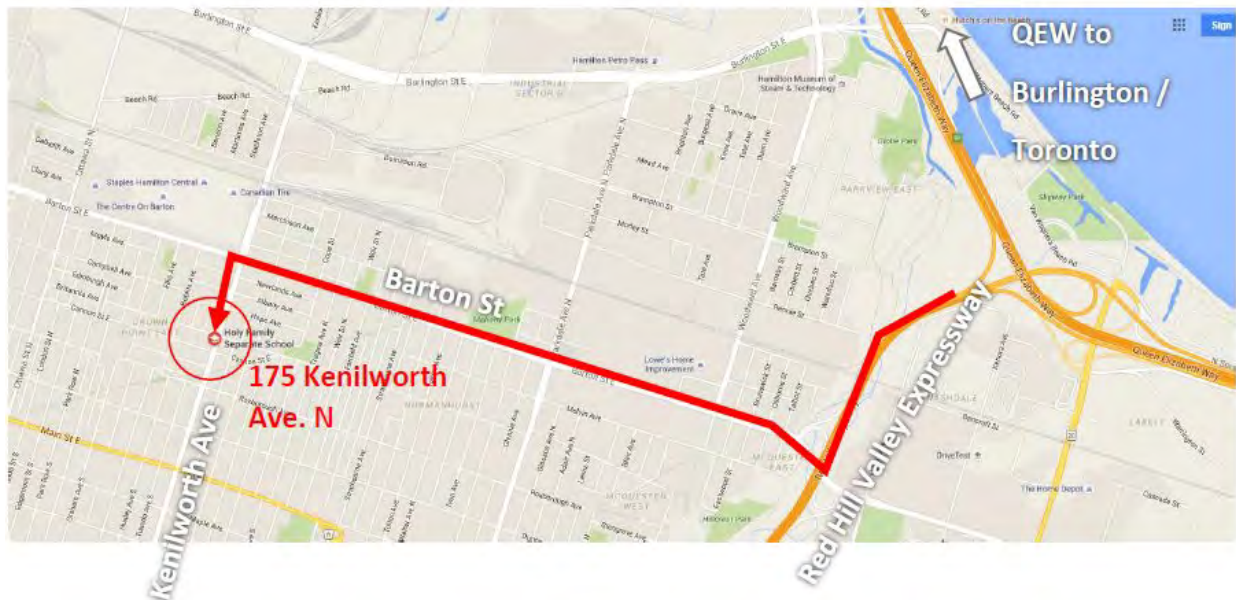
The Great Meeting Shift
- Getting to the "Robodrome"

Following trade school, from November 8 through to Christmas, our Tuesday meetings will be moving to the "Robodrome Robotics Centre" from 6PM to 9PM. This is necessary due to the availability of space and equipment, as well as to facilitate mentor schedules. We continue to expand the resources available at the Robodrome and currently have a workshop, several classrooms, and have converted the gymnasium into a full sized practice field. Having this facility has been key to the team's success!

The Robodrome is located at the old Holy Family elementary school located on the corner of Cannon and Kenilworth at 175 Kenilworth Ave. N.   Parking at the Robodrome is best accessed from Cannon St, behind the Holy Family Church.   Please leave room for church parishioners to enter and leave the lot.

We encourage students and parents to make carpool arrangements or use public transit when possible to get to and from the Robodrome.   Find one or more team-mates from your neighbourhood and introduce yourself to their parents. By working together, we'll make sure no one gets lost in the move :)

How to Get Involved, and Stay Connected

Basecamp

Celt-X always has a lot on the go. We post notifications to a project management site called Basecamp. We also use Basecamp to discuss ideas and organize various aspects of our projects. Each student has been granted access to Basecamp and is encouraged to participate in discussions. Additionally, students may use it to contact the mentors if needed. Students are responsible for keeping informed about meetings and events and are expected to conduct themselves in accordance to school rules at all times.

If you want to be just as connected as the students, let one of the Lead Mentors (Mr. Pinto or Brendan Simons) know, and we'll add you to Basecamp.   You can choose to receive daily digests, or instant notifications, straight from the firehose of activity!

Calendar

If you just need to know dates, Celt-X maintains a publically accessible copy of our calendar on our website at www.5406.ca/calendar.html.   If you use Google Calendar, you can add the teams' schedule to your own Calendar by clicking the little "plus" icon in the lower right of the page.

Social Media

Social media is a great way for us to reach our supporters and fans.   Celt-X has a Twitter profile (https://twitter.com/celtxrobotics), a Facebook page (https://www.facebook.com/celt.X.5406/) an Instagram account (https://www.instagram.com/celt.x.5406/) and a YouTube channel (https://www.youtube.com/channel/UC_O2sXZJOmDZY4bjQipjjfg).   Follow along with us, and share anything you find interesting with friends.   We love the attention!
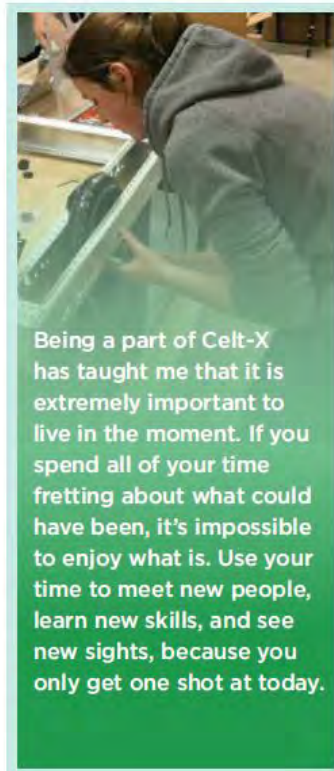
Call for Sponsors

The FIRST Robotics program is a powerful inspiration to students. Working side by side with professionals, building high performance machines, and competing against teams from all over the world, our students experience just how thrilling a career in Science, Technology, Engineering and Math (STEM) can be. Celt-X can afford to participate in FIRST thanks to the generous donations of groups like Arcellor Mittal Dofasco, the HWCDSB, McMaster Innovation Park and Mohawk College, who recognize the value in our work. Unfortunately robots are expensive, and we'll need more support to cover the upcoming season's costs. If you, your company, or someone you know would like to partner with Celt-X, please direct them to the sponsorship package on our website here:

http://www.5406.ca/uploads/CeltXSponsorshipBooklet.pdf. Small or large, cash or in-kind

services, we would be grateful for any help.   All donations are tax deductible. Details on

LEADERS of the FUTURE through Robotics TODAY

Partnering with Celt-X 5406 is more than a sponsorship. It is an investment in our youth. Join us in helping high school students build the future.

At the start of last year I was a shy grade 9 student and joined Celt-X never having used a power tool. By season's end I was wiring the robot and confidently representing the team at assemblies, award ceremonies and on television.

I joined Celt-X because I want to pursue a career in engineering. My hope was that by joining Celt-X Robotics I would learn how to design and build a robot. Celt-X Robotics has taught me much more. By being part of this team I have enhanced my leadership skills and I have learned what true teamwork is all about. I have learned life lessons that I will take with me no matter what career I pursue.

Being a part of Celt-X has taught me that it is extremely important to live in the moment. If you spend all of your time fretting about what could have been, it's impossible to enjoy what is. Use your time to meet new people, learn new skills, and see new sights, because you only get one shot at today.

2 I CELT-X-ROBOTICS

rewards we offer to sponsors can be found in the booklet.

Mentoring

.
We are always looking for new mentors. If you or anyone you know would like to be a mentor, please reach out to us. We can use mentors in a variety of fields including mechanical, electrical, computers, design, business, and media.

Thank you Parents and Supporters

Thanks for taking the time to stay involved with the team. Our team has some amazingly dedicated parents and mentors! As you can tell by the length of this newletter, 2016/2017 is

Celt-X's most ambitious year to date, and pulling it off will only be possible through your support. We highly encourage all parents, alumni and supporters to get involved - whether that is attending our events, helping with a bake sale, mentoring, finding sponsorship opportunities, helping to transport our robot, or providing carpooling We are a tight knit group, and would love to have you join our family.   Go Celt-X!