# Chairman's Award - Team 3990

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2016 - Team 3990

**Team Number**

**3990**

**Team Name, Corporate/University Sponsors**

ABB / APCRA / BCGO / Centre culturel et sportif Regina Assumpta / Chartwells / Photo Laplante / Stylo.ca / Autobus RM / ABC Service d'arbres / APTECH / CDRST et Collège de Bois-de-Boulogne / Brault & Bouthillier / Caisse populaire Desjardins de Sault-au-Récollet / Collège André-Grasset / Fondation du Collège Regina Assumpta / Modécole & Collège Regina Assumpta

**Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years**

Over the past 5 years, more than 95% of our 200 students are heading toward STEM fields in university, having earned over $43 000 in scholarships. Two students, who are now mentors on the team, were Dean's list Finalist and Winner. Our students, 40% of whom are girls, have developed a strong confidence in their abilities and they are fully invested in science and technology, and in sharing their passion with others. FIRST inspires our TechKids to excel on pushing themselves further.

**Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years**

Together with the school administration, the team worked toward the creation of a Science & Robotics concentration in 2014, exposing more than 400 students to FIRST as early as grade 7. In partnership with various organizations, we regularly hold science days and robotics camps. Over the last five years, more than 30,000 students have been exposed to FLL and FRC activities. Our team also reaches out with open houses to expose the public to robotics on three days each year.

**Team's innovative or creative method to spread the *FIRST* message**

Our social networks are the most followed in the FIRST francophone community: 1850+ followers and 52 000+ views on YouTube. The students have participated in many community initiatives such as the Mini Maker Fair and Canada Day at Otterburn Park. We have also been featured live on television in interviews reaching more than a million people. One of the team's primary goals is to make science accessible to everybody by working with disabled kids and kids from disadvantaged backgrounds.

**Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate**

We inspire other teams to follow in our footsteps with:  Tech Academy, our online bilingual learning platform, with classes and videos easily accessible to everyone;  The creation of a Science & Robotics concentration at our school;  A three-year multidisciplinary training guide;  Alleviating the language barrier by spreading FIRST's message in French;  The help we give and the bonds we create by sharing knowledge and advice; for this we earned the Gracious Professionalism Award in 2015.

**Describe the team's initiatives to help start or form other FRC teams**

We strive to be a model for the FIRST community and to expand the number of teams with:  Skype sessions to help kick start teams in Alberta, France and Mexico ;  Briefings and training sessions with other schools' stakeholders wishing to embark on the FRC adventure;  Training on machines and tools and in management consulting and logistics for schools who want to start a team;  Helping with the creation of 7 FRC teams.

**Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)**

We believe in the continuity provided by FIRST robotics programs. We are therefore committed to creating FLL teams :  Since 2012, the creation of 9 FLL teams enjoying the same facilities and mentors provided for our team;  Robotics camps offered in May to all elementary schools in the area, in order to generate interest in FLL;  A Robotics concentration in our school bringing more students into the universe of robotics and getting them involved in FLL.

**Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program**

We have taken on the mission of maintaining the sustainability of FRC with special emphasis on the Francophone community, using the following tool: An online learning platform, Tech Academy, offering courses in mechanical and electrical engineering, software, management and others. We are the only team to host an FLL competition in Quebec with all our Techkids volunteering, and we are the only team to make information related to roboRIO available in French.

**Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)**

We inspire other teams to go to the next level. This also helps us get ourselves to the next level. Students and mentors make themselves available during regionals in order to help other teams; We open our facilities and provide assistance to other teams on all aspects of the project; We offer training sessions for mentors and students on various topics with Tech Talks; We give teams in need material resources to help them get through the seasons; Our team mentors 3 FLL teams.

**Describe your Corporate/University Sponsors**

The areas of expertise of our sponsors are extremely varied, allowing for a comprehensive and challenging partnership. Logistics and financial: APCRA; BCGO Facilities, financial and material resources: Collège Regina Assumpta, Centre culturel et sportif Regina Assumpta, Fondation du Collège Regina Assumpta Technical expertise: ABB; Axiomatech Educational support: Brault et Bouthillier; junior colleges; research centers Financial: the rest of the partners

**Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years**

Our sponsors are more than partners: they are members of the team. They provide dedicated mentors for training sessions and for creating educational content. They guide and advise students on post-secondary education. Our partners offer us much more than just financial support: they offer us human support, they allow us to profit from their expertise and resources, and they open their facilities to us. To thank them, each year we organise a huge event to highlight their priceless commitment.

**Describe how your team would explain what *FIRST* is to someone who has never heard of it**

FIRST is a robotic coopetition challenge game. This is an experience of a lifetime that unites thousands of people of different ages from different countries, all touched by innovation and recognition of science and technology. It is a project that provides an opportunity to be in contact with inspiring, dynamic professionals from many disciplines. FIRST is also about self-confidence, leadership, collaboration, and surpassing oneself; but especially, it is about the ability to change lives.

**Briefly describe other matters of interest to the *FIRST* judges, if any**

We are a team of qualified mentors, former students, and parents of current and former students; We have a solid business plan that will allow the sustainability of the team for many years; We have established a Science & Robotics concentration at our school. Four hundred students have been introduced to robotics and brought into the FIRST family at a young age. Our academic robotics concentration is the biggest in North-America and even beyond.

**Team Captain/Student Representative that has double-checked this submission.**

Sébastien Duran

**Essay**

As adolescents we are frequently advised to find the passion that will motivate us every day. For the school administration and our teachers who see us working hard in our studies and school work, Team 3990 symbolizes Vision. For our friends, who see us skipping countless lunch hours in order to work on robotics, Team 3990 means Motivation. For our parents, who witness our daily morning rush, even on holidays, Team 3990 is synonymous with Energy.

Team 3990: Tech for Kids is more than just a simple project, or a team; behind our team stands an accumulation of five years of more than 200 students, mentors and volunteers. Over the years, as our school has grown, so have we. Starting out in a small room in the basement, we have risen to become the ambassadors of science and technology, the pillars of the scientific community of our school, so much so that as of 2014, our school began offering an academic program based on robotics. We now have yet another way to share our passion for robotics with our fellow students. Courses in Arduino, Programming, Electronics and Design Techniques previously developed by our team members and offered to the entire FIRST community are now being used as an introduction to robotics for this new program. Students in the program derive the benefit of fifty extra hours of science, technology and robotics, a first in Quebec. This unique opportunity is open to all of our students and currently more than 400 twelve-to-fifteen year old students are

enrolled in the program and are being initiated into the world of robotics, thanks to this enriched curriculum. Today, we are very proud to be able to say that that the enrolment in the Science and Robotics program surpasses that of other programs offered by the school, the result of this being that we now manage the largest Robotics program at the secondary level in Canada.

We are also working very hard to transmit our passion for technology to the larger community, and our involvement here is somewhat different. Since its inception, the team has been associated with organizations working with physically challenged children such as La fondation Mélio, which helps to improve the lives of children at the Marie Enfant rehabilitation centre, and La fondation Enfants en tete, whose mission is to promote social justice for challenged children and support for their parents. These children often have a significant link to technology as it frequently has a direct impact on their quality of life, and may even be essential to their survival. Transmitting our passion to these children shows them that they can have power and influence over technology and robotics. It gives them confidence in their abilities and shows them that they can have a hand in changing their life circumstances. Also, we are pushing our passion for kids even further by partnering with organizations that provide support for economically disadvantaged children. Working with organizations such as La Relance, which is dedicated to initiatives promoting equal opportunity for kids and healthy parenting skills for families, and La Fondation du Dr. Julien, that works in the field of Social Pediatrics serving the social, psychological and medical needs of disadvantaged children, we organize science days and robotics camps.

Whether it is through weekly programming workshops given to eighty girls, or Harry Potter-themed robotics evenings, we are changing the way people look at science and technology. In the five years of working with these organizations, we have introduced more than 10,000 young people to the world of science and technology. Being a member of Team 3990 also means being involved in organizing these large-scale projects. Other examples of this are our collaboration on a World War I exhibition in Montreal, and our partnership with the Casque Noir organization where we made game modules and toys for economically disadvantaged children in Jalousie, Haiti.

Our team is innovative when it comes to the art of promoting the FIRST message to other teams. Cooperation with others, facilitating learning, and the success of all teams are things we take to heart. Promoting the FIRST message means we produce robotic FRC documents on a regular basis, and we also hold training sessions. By considerably reducing the English-French language barrier thanks to our bilingual content, Team 3990 has become the bridge between the official FIRST organization and Francophones interested in FIRST activities. We are continually building this bridge thanks to our academic content published via Tech Academy, our on-line learning platform, to the bilingual content and publications on our social networks, and especially to the connections we have forged with teams around the world. Our resources have contributed to the start-up of teams in Alberta and in France, and to the education of American and Canadian students who can consult course notes and training videos; they have also helped rookie teams get through their first year in FRC. In all, there have been more than 5,200 single visits and 46,000 page consultations since Tech Academy went online in February, 2014. Consequently, we are taking concrete steps to keep FRC a sustainable presence in the Francophone world, notably by being the only team to make all our work and all our test results for the beta version of the new roboRIO available in French, and especially by being the only team to create French training videos and training workshops for the FRC Francophone community.

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We are working equally hard at being a bridge between other schools in Quebec. We have organized information sessions and training workshops during several colloquia for groups of Quebec technicians and for the la Fédération des établissements privés de Québec (FEEP), an umbrella group representing Quebec private schools, which have allowed many stakeholders, managers and administrators to see what the FIRST adventure might look like in their schools. Also, we have advised three Quebec private schools on the creation of scientific educational programs, on the purchase and maintenance of facilities and advanced equipment, and on the necessary professional training.

From our very beginnings, Team 3990 has embraced the value of coopetition. Whether we are actively in competition or not, we make ourselves available to teams who may be having mechanical, logistical or organizational problems. For example, our mentors and students spent an entire day helping Team 4957 when they arrived in Montreal without a functional pilotable base. We also spent a whole day with Team 3550 refining their mechanical and computing concepts. Each year, we open our doors to other teams so that they can have the benefit of our facilities, our time, and for those in need, our materials. Also, having already had the experience of traveling to the St Louis Championship has allowed us to help eight other teams organize their trips. And, the team has created a tab called Forum on our web site where we respond to questions, in English or in French.

Our love for FIRST would be for nothing, however, if we did not ensure its sustainability over time. To this end, the team has created nine FLL teams, and eight FRC teams. This year, we are mentoring fifty-two students from our own school and twenty-six students from Jean-Grou primary school. For the past two years, our team members have volunteered to either accompany students to or be referees at Montreal FLL competitions. Furthermore, last February 19, 2015, we organized and received an FLL qualification, making us the first team in Quebec to host and finance a competition within our own walls.

For Team 3990, our parents are an integral part of our success. They believe so much in our project that they end up being as engaged in the process as we are! They are engaged on many levels: they are mentors, cooks, ambassadors for future partnerships, and so much more. Our sponsors are also full members of the team. We have over twenty sponsors coming from such diverse domains as engineering, education, finance, retail, and research. They have all rallied around our mission: FIRST, and children. More important even than the financial and material resources that they bring to the team are the human resources and expertise that help us to accomplish the goals of our project.

All teams proclaim long and loud the values promoted by FIRST, but we believe that we do it in a unique way by bringing the project where it doesn't usually go! Our robots are proud representatives of FIRST and they are often seen on such unusual paths as under the burning sun on Canada Day at Otterburn park; in the offices of ABB (ASEA Brown, Boveri); at a Ubisoft event; on the golf course at a benefit for Forces Avenir, an organization that promotes excellence and social commitment in Quebec; live in front of an audience of a million on MAtv's morning show, Salut, bonjour!, or in school gymnasiums and community centres for events such as the Maker Montreal Fair. We are confident that we have constructed our robots and our robotics program in a way that is both sustainable and elegant, not only so we can compete at FIRST, but also so we can promote the FIRST message wherever there may be receptive ears to hear it.

Building a team over five years is a quite a challenge. It's a long-term adventure that requires perseverance, teamwork, and the will to surpass oneself. FIRST offers us the opportunity to give the best of ourselves, but it especially allows us the opportunity to build not only our own futures, but also to have an impact on the futures of thousands of children. All of this has made us who we are. We are Tech for Kids. We are a vision, a motivation, an energy!

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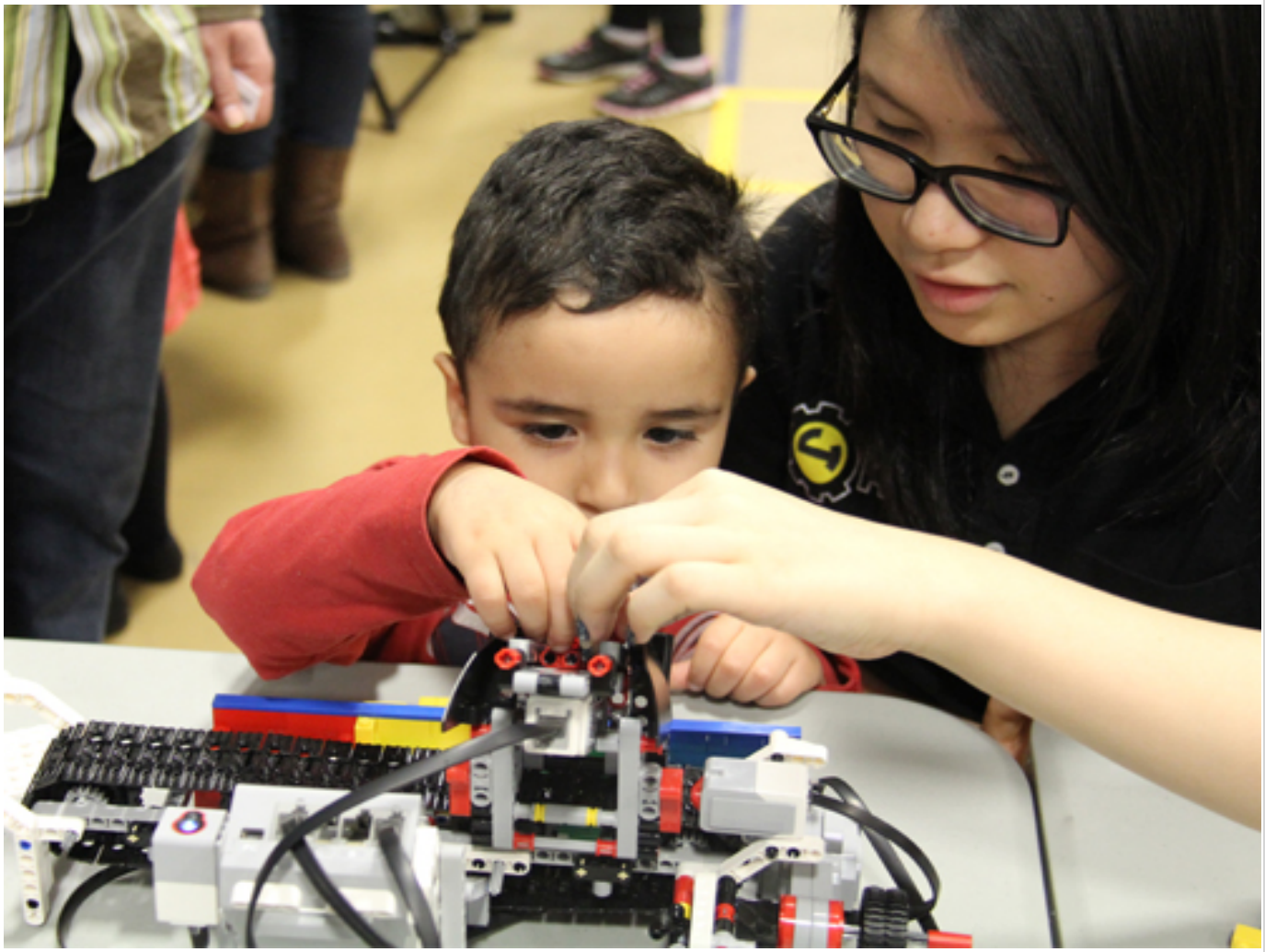
**Picture 1**



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**Picture 2**