

## 2011 Chairman's Written Submission

Years of sleepless nights in the shop, weekends filled with community service events, and Friday nights attending industry conferences has led us to ask ourselves: "Why are we involved in this crazy thing called FIRST?" Our answer lies in the experiences we've shared with our teammates, mentors, and community members. With every cow pun and Daisy robot we give back to our community. With every formal handshake and mentor discussion we prepare our members for their future, and inspire passion for STEM in our generation and the next. Through the tumultuous experience we call Team 1538 -The Holy Cows- we are engineering a better life.

Our team strives for continuous growth and improvement. Since our inception in 2004, our team has grown from nine members to over 60, spanning all three High Tech High (HTH) schools in Point Loma. This year alone, the Holy Cows have welcomed 35 new members. Due to this massive influx, we've continued to improve our managerial system. A team registry was established which connects all mentors, members, and parents to our e-mailing list and online documents, thereby improving team communication. Through our Calf-to-Cow program, we introduce rookie members to the different aspects of the team to ensure that knowledge is continually passed on. Leaders and veterans use interactive projects to teach calves the values of FIRST, as well as engineering and business skills. Rookies acquire practical knowledge by participating in the two VEX teams formed this year, while our team's future leaders gain experience by directing them. In addition, we've created an elective robotics class, known as X-block, at our school which is now used for valuable Calf-to-Cow work time. Through our internal mentoring programs, rookies gain valuable knowledge, become leaders, and join the ranks of our skilled alumni.

Once a Cow, always a Cow. The strong partnership forged between students, alumni, mentors, and sponsors are like spots on a cow: they last forever! Holy Cow alumni frequently visit the team to mentor, offering a veteran perspective which we rely on for guidance and aid. The relationship between students and mentors is exemplified as two Holy Cow mentors have been recognized with Regional Woodie Flowers Awards. Just like our mentors, sponsors play a vital role in our team. This diverse group not only supports us financially, but also provides training opportunities. This year, our sponsors have grown to over seventeen corporations and foundations; despite this large number, we still understand the value of a personal connection. We've maintained a seven year partnership with BlueChip, who annually take students in to train them in fabrication techniques, offering a unique learning experience. We honor our sponsors by inviting them to an annual Sponsor Banquet where we present the Founder's Award to one who truly exemplifies the meaning of FIRST, just as we strive to. We diligently maintain open channels of communication with all sponsors, alumni, members, and parents through our social media presence.

Through our innovative use of technology and personal interaction with our "cowmoonity" the Holy Cows have made being nerdy cool. When presenting at any venue, we quickly draw a crowd. Using our robots as interactive learning pieces, team members engage passersby who

are quick to volunteer to catch a ball kicked by Daisy Bell. We set up a field where students and children can operate mini-robots and interact with team members. Stephen Whiting, Director of Public Relations, expresses our perspective on inspiring the next generation. He states, "The robot is only a vehicle to spread passion for STEM; it generates enthusiasm which gets everyone involved." We also spread excitement and recognition of STEM and FIRST through our social media presence. Our Facebook page has over 580 "likes" and tens of thousands of views. In order to engage our audience, we release a mix of interactive FIRST and team material including FIRST Fact Friday and Member Spotlight.

Over the past few years we've intensified our efforts to give back to the communities of both San Diego and FIRST. As a part of this growth, the Holy Cows have helped organize and run eleven FTC and FLL events in Southern California since 2008. We've helped run seven FLL Qualifying and Championship Tournaments, and four FTC Championships. This year, the Holy Cows hosted an FLL Qualifier at HTH. Fourteen FLL teams registered, half of them rookie teams. The event was a great success with all participants leaving eager for next years tournament. As FLL team 6481 stated, "The students had a great time and there were many wonderful learning opportunities. We look forward to many more tournaments in the future." By guiding the younger generations, we support our community and FIRST to ensure their sustainability.

The Holy Cows have become the backbone of Team San Diego, a coalition of San Diego FRC teams. For the past six years, we have hosted the annual FRC Kick-Off, featuring the field elements of the new game. We have also hosted Fall Workshops at HTH for two years. Jim Beck, FIRST Western Regional Director, has recognized how important it is to have regional workshops due to decreasing rookie team retention rates, and recommends it as a model for the rest of the country. When asked about the workshops he said, "The organization, logistics, presentations and overall team experiences at the San Diego Fall Workshops put on by Team 1538 were exceptional in all areas. They are a shining example of gracious professionalism in action, by giving back to other FIRST teams." In future years, we plan on expanding the workshops to accommodate more teams and presenters. We support other FRC teams on a personal level through One-on-One Workshops. This year alone we have mentored seven FRC teams including 3476, 3521, 3500, 2493, 3486, 3849, and 3453, the majority of which were rookies. We plan on helping more rookie teams succeed by developing a rookie team kit and specifically tailored workshops. In addition, the Holy Cows recently fulfilled a long time goal by building a Mobile Machine Shop. This trailer with machine tools will be taken to the San Diego Regional and other West Coast events, and will be available for use by all the teams in the spirit of cooperation.

Our dedication to the future of STEM education can be seen through continual support of other FIRST teams. Through mentoring and volunteering we assist all tiers of FIRST. The Holy Cows currently mentor six FLL teams by attending weekly meetings, encouraging participants, and helping contribute to their robot designs and research projects. This year, the Holy Cows taught the Student and Teacher FLL Workshops at LEGOLAND. The Holy Cows also work to communicate excitement for STEM and FIRST through various volunteer service projects. In the

past three years, the Holy Cows have accumulated nearly 10,000 hours of community service. Through constant community appearances, the Holy Cows are taking steps to cultivate an appreciation for science and technology.

By demonstrating the impact of robotics education to the surrounding community, the Holy Cows have inspired two other HTH (Media Arts and Chula Vista) schools, and the neighboring Rock Church Academy, to adopt their own robotics programs. We have become a prominent member of the our school's community, driving prospective members seek us out. HTH's Director, Brett Peterson, has even attributed increased enrollment to the Cows' presence. This year nearly fifteen percent of the student body are members of Team 1538. In fact, Chris Lutze, Director of Engineering, chose to attend HTH as a freshman because he wanted to join the Holy Cows. Our team has introduced two elective robotics courses into the curriculum known as intersession and X-block. We not only impact the learning experiences of students, but also influence the culture of HTH. Annual traditions such as Holy Cow Spirit Day, where the entire school dresses in black and white, create an atmosphere of excitement for robotics and an appreciation for engineering. Every year HTH students and Cow fans crowd the San Diego Regional's stands to support their favorite bovines in concert with Dean Kamen's "homework".

In addition to the attention we receive from our school and community, we are recognized by notable figures and political leaders. This past year, the Holy Cows took political action by collaborating with San Diego Mayor, Jerry Sanders. Working together we established "FIRST Day" on October 17th, 2009 to promote a greater appreciation of STEM in the San Diego community. The Holy Cows recently appealed to the San Diego Unified School Board and encouraged them to support FIRST programs. In the future, we plan on inspiring more people through partnering with political representatives and school districts to create a state-wide "FIRST Day" and more opportunities for students to experience FIRST. This past December, the Holy Cows exemplary reputation attracted the attention of new FIRST president, Jon Dudas, and Vice President of Field Operations, Roseann Stevens, as they toured the west coast. Mr. Dudas stated, "The professionalism and organization of the team is impressive. Not only do they perform well in each aspect of the FIRST experience, but they lead their school in spirit and pride. These are not the kind of people I hope to have as colleagues someday—they are the type of people I am glad to have as colleagues now."

The Holy Cows have learned that beyond the importance of building a winning robot, spreading our passion and excitement for STEM and FIRST is what truly matters. FIRST's vision is shared by all of our members, and we will not stop here; we will continue to pursue a future where science and technology are truly celebrated. Through all our experiences, the Holy Cows are leading the herd in engineering a better life.