

Chairman's Award - Team 359

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2022 - Team 359

Team Number

359

Team Nickname

Hawaiian Kids

Team Location

Waialua, Hawaii - USA

Describe the impact of the *FIRST* program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in *FIRST* programs as mentors/sponsors.

Graduation rate of students who pursue STEAM Post-Secondary Opportunities (College, Armed Forces, Technical School): 100% since inception. 96% WHIS Valedictorian rate in the program (at least 1 person every year except 2007). 1 Student for the Class of 2022. Total 42 Students. 7.73% of the students at WHIS are in Robotics (45 out of 582 students). 3 recent Dean's List Finalist recipients 2019, 2020, 2021 SY. 1 WFFA Award recipient 2020 Hawaii Regional. 1 Presidential Award Finalist 2021.

Describe your community along with how your team addresses its unique opportunities and circumstances.

Waialua is an economically disadvantaged, rural community. Many different programs/organizations compete for the same limited resources which leaves no support for Robotics. We have strong partnerships with many businesses, foundations, and grants outside of our community due to our demographics and impact on our community. During COVID, raised a record no. of funds. \$581,588.00. We have implemented the following in our community and school. Outreach Workshops Showcases Community tours Demos

Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?

The team holds an annual Celebratory Luau Event which highlights *FIRST*, our Program, our participating students, and STEM. This event is effective in getting the message out. Raise money-ticket sales, team merchandise sales, silent auction. STEM demonstrations i.e. Robot Graduating senior GPA and awards. Guest speakers i.e. Governor, Legislature, Business Sponsors, Hawaii DOE. News media highlights event. All of our activities are posted on our team Website, Twitter, Facebook, and Instagram.

Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.

Our program regularly acts as ambassadors, hosting (tours and workshops) students and mentors from other teams from across the US and International countries such as China, Japan, Canada, Australia, New Zealand, and Korea that come to visit Hawaii. We emphasize participation in service-learning opportunities such as volunteering at annual Blood Drives, Special Olympics, Rotary Community Events, and peer-peer mentoring (tutoring). We highlight students on our Website and team Social Media.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

Regular assistance of Hawaii local FRC and STEM programs in the use of our facilities, tools, equipment and supplies, and mentoring support. Provided over 130 requests (2018-21) for our resources on Program Management & Sustainability training documents, including veteran teams through our Website. Since 2014, we have annually traveled to China to provide training workshops for pre-rookie and 2nd year teams in FRC and other STEM programs (pre-COVID). Conduct annual STEM Workshops and Outreach.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

100% of all our participating students have pursued STEM-related fields of higher education and training. We provide opportunities and support in: Community Service Outreach-STEM Based Demonstrations. Host Tournaments: Pan Pacific Signature Events (4 days)- 50+ teams local/international Local Events through local league organizations Service-Learning Opportunities Special Olympics, Family Fun Day Training Workshops Partnerships with College and Career Center and higher education institutions

Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years

-Established Friends of Waialua Robotics 5013C Organization 2017 to support Team 359 to support the vision and mission of the program. -Strengthened Partnerships. New sponsors include Oakley Hawaii; Corteve Agriscience; Skydive Hawaii; Hawaiian Electric Industries; and HTDC -Developed an entrepreneurial program to raise funds with local businesses and organizations. -New partnerships with higher education and industry to connect students with professionals and certification opportunities.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Equal access and participation in FIRST, STEM outreach events, College and Career activities. Implement inclusive and diverse strategies, utilizes its resources raised, and removes barriers caused by inequities due to economic, educational and social factors. We accept regardless of race, gender, socio-economic status, age, focused on accessibility and diversity. Mentors participate in Equity-Centered Design Thinking Training. Equity, Diversity, and Inclusion Online Training Resources.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

Friends of Waialua Robotics, Inc. 501(c)3 Non-Profit Organization support-Team 359. Entrepreneurial Partner Projects. Provide Equipment and Materials to support the activities of Team 359. Waialua Robotics Program Business Plan: - Executive Summary -Grants Write Up -Evidence of Donations -Private Sponsorships and Donors -State, District and Federal Grant funds-REACH, UPLINK and 21st CCLC Hawaii Technology Development Corporation (HDTCC) PPE Grant Raised \$581,588.00 2021-22 SY as of Feb. 8, 2022

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years

We have successfully developed a diversified portfolio of ways to engage our sponsors to strengthen our relationship and create a reciprocating system to provide services, volunteer support and solutions. Business Entrepreneurship Partnerships to Raise Funds. Banquet and Annual Fundraiser Event. Annual Program Tour of our Facilities. Supporters are provided with team photos and plaques annually with an EOY report. Participate in outreach events to support our sponsors with volunteer help.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

Imposter Syndrome-some students don't feel confident that they can be successful in a STEM career. Provide additional team bonding and enabling activities. We have actively worked on WHIS College and Career Center activities such as host workshops, college visitations, guest speakers, and parent nights to engage students and their families in learning post-secondary requirements and opportunities. Post-activity surveys to assess experiences and provide constructive feedback for improvement.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

Our vision and mission has been established and met, to encourage and to expose students to activities that relate directly to careers in math- and science-related fields such as engineering, computer science, graphics, CAD, video production, and web-page design. Activities include participation in robot competitions, STEM Outreach Events, and STEM-related entrepreneurial partnership projects, engaging in the engineering design process and utilizing high-tech industrial equipment and tooling.

Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.

The team has 3 foundational pillars that work towards sustainability of our program. The program - sponsors - student learning and achievement. Our program has a competition team component, regular coursework component, and engineering entrepreneurship (special projects) component. Our team has traveled to the most different regionals in the history of FIRST. Our goal is to provide new cultural and social experiences, in addition to the academic learning opportunities offered by Robotics.

Essay

The Waialua Robotics Program began in 1999, as the first robotics-related program of any kind in Hawaii. The team consists of 45 ethnically diverse students in our program, actively involved in sports, enrichment, leadership, and extracurricular activities. Throughout the past 23 years, we have led the local STEM movement through our determination, strengths & continued successes attributed to our emphasis on promoting STEM education, sustainability, outreach, innovation, and program excellence; all led by the optimistic and focused drive of a diverse group of students, mentors & volunteers. Today, there are over 700 organized robotics programs grades K-12.

Despite being from a poor agricultural, rural community, we never let our current challenges and hardships affect the outcome of our goals. The defining core value of our program is inspiration. We believe that if students are inspired, there is no limit to what they can achieve.

To ensure quality and foster everyone's talents, members join the team based on their interests. Students are divided between 4 functional sub-teams: administration (adult mentors only), construction, documentation, outreach and support, with concentrated divisions within and collaboration between sub-teams. Students who have multiple interests and talents can participate in multiple roles and/or sub-teams.

At our school, robotics is integrated into a STEM career pathway with those on the construction sub-team in a robotics-tailored engineering design and/or entrepreneurship courses and those on the documentation sub-team in communications/arts technology courses. New students on the team develop their skill sets & guided by veterans known as transition (peer-to-peer) mentoring. Students are encouraged to volunteer in various robotics events and activities year-round, in order to spread the message of FIRST and to meet the goals and objectives of our program. All students from our program graduate as self-directed learners, complex thinkers, effective communicators, and community contributors. What is amazing about our group of students is the closeness of the partnerships they have created in recent years. CEOs of our current corporate sponsors, local political leaders, & even our current governor could easily tell you the first names of many of our students. Participating students from our program have earned the distinction of WHIS Valedictorian(s) in 22 of the past 23 seasons.

Our program has many volunteer mentors who are engineers, parents, teachers, political leaders, and community members work closely with our team to assist & inspire our students.

As a foundation pillar of robotics in Hawaii, we took the initiative and responsibility of expanding FIRST in our state. Mr. Lee and several other mentors became members of The Hawaii Scholastic Robotics Alliance & Hawaii Robotics Planning Committee (RPC), organizations that worked towards making the HI Regional a reality. They also collaborated with the Hawaii State Legislature on former Governor Linda Lingle's STEM initiative bill and attended legislative meetings to provide input on the resources needed to support robotics programs, offering ideas on networks of mentors, training, workshops & stipends for teachers. For 8 years since our inception, there were only 4 FRC teams in Hawaii. With the help of team 359, in 2008 the count jumped to 25, resulting in over 30% of Hawaii Schools having robotics teams, the highest percentage of any state in the nation. With the support of our current Hawaii State Governor Ige who has endorsed and visited our program regularly, we continue to assist and support others by hosting workshops, sharing resources, & most importantly: mentoring and collaboration. Specifically, we host workshops explaining the FRC control system, hold engineering/design CAD software training workshops, and conduct sustainability/management workshops with the hope that we can inspire school leadership and mentors to develop robotics into a program versus it simply being an after-school club. We collaborated with as many as 20 Hawaii FRC teams, in addition to communicating with many teams from China in the Pan Pacific to Turkey in Europe. Mentoring includes the use of our extensive facilities (supplies, equipment, and space), collaboration of ideas (sharing of designs and CAD), and the use of our mentors and students. We have expanded our program to include other robotics curriculums and programs, which serve as a training arena for new and upcoming members as well as an opportunity for FRC veterans to transfer their knowledge and skill sets developed in our program. Our program has also hosted Robotics tournaments consisting of teams locally, Japan, and teams who were exposed to their first STEM competition.

Throughout our history, we have focused on inspiring our students by providing many opportunities to experience FIRST and STEM around the World; in fact, we are the most well-traveled program in the history of FIRST. In order to make this possible, our current "long-term sustainability plan," veered from limited fundraising, towards creating the foundation of a state-wide engineering curriculum, countless business partnerships, entrepreneurial projects focused on innovation creativity, outreach services, self-written state/federal grants, & funding support from Friends of Waialua Robotics, Inc. Currently, during a worldwide COVID-19 Pandemic and a major economic budget crisis in the State of Hawaii, our program has adapted to continue to offer in-person programming and despite recent events raised a record amount of funds this 2022 season in the amount of \$581,588.

Our scholarship program assists 100% of qualified student members who pursue higher education. Our diverse sustainability plan doesn't just help our team and community, as we extend our resources to other teams & programs. Since 2005, the team has acquired over \$9.1 million for Robotics and other STEM education/technology related programs here in our school and community. The funding has gone towards program facility upgrades, new industrial equipment, robot parts, supplies, outreach services, and the astronomical travel expenses in and out of Hawaii.

Our outreach has inspired and collaborated with programs beyond our State and Nation, and has touched upon STEM programs found in Australia, Japan, Canada, Israel, Turkey, Taiwan, and China. For example, since 2014 up until the Pandemic, our program had annually visited different parts of China each year, offering multi-day workshops to Chinese pre-rookie teams of those regions, participating in their off-season events. We volunteer at the event, serve as judges and coordinators, and tour their country to learn and share with each other our respective cultures. We also encourage international teams to participate in the Hawaii FRC regional annually, hosting those teams to spend days at our school, providing workshops and tours, while engaging and exposing them to our positive Hawaiian culture.

All the buzz surrounding Team 359's successes and outreach the past 3 years have attracted a lot of attention, attention that we saw as an opportunity to spread FIRST's mission. We have been featured in countless news articles in The Star-Advertiser, graced the cover of Hana Hou, Hawaiian Airlines magazine distributed on every flight, featured on YouTube video segments, consistently appearing on our team social media such as Facebook, Twitter and Instagram, and globally in the Global Teacher Prize 2018 event held in Dubai, UAE. Our lead mentor was awarded in 2018 in Washington, DC for earning the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM) for our award-winning Waialua Robotics STEM Learning Center. The team has also been featured over the years on various local news channels and outlets, Olelo TV, PBS, a segment of Hawaii Public Radio, a program for George Lucas Films' Educational Foundation, Oceanic Time Warner Spectrum, and the Japan Ministry of Education STEM Cultural Kakehashi Project.

In addition to media, the team lives, maintains, and upholds the values of the FIRST Ethos instilled in them through their commitment to outreach and team culture. Therefore we created a separate outreach sub-team dedicated to helping other teams, STEM organizations, and our local community. Examples include maintaining a team website (www.waialuarobotics.com) dedicated to sharing student learning experiences and STEM resources, organizing and hosting blood drives every year, participating in community service events (such as volunteering at Rotary Club functions helping the elderly/handicap, serving as volunteers to help facilitate the Hawaii Special Olympics, community clean-ups, showcasing STEM at tech fairs & demonstrations state-wide), hold regular state-wide robotics open house tours, hosting workshops on sustainability, and a celebratory luau to recognize and thank our community, sponsors, legislators, and graduating seniors in our program.

Team 359's goals/objectives, its journey, and successes, are all measured by our ability to inspire/impact our participating students, our local school community, our Hawaii State STEM initiatives, the FIRST Robotics community, and our contributions to the global STEM movement. Despite the odds of being from a rural community on a small island in the middle of the Pacific Ocean, the Hawaiian Kids have transformed their ideality into a reality the past 23 years. The reality is a result of our relentless efforts to lead by example; to live by the FIRST Ethos; to provide accessibility, diversity, and equity among its participants; to recognize and celebrate our STEM heroes; and to share our journey and experiences with others. When tourists come to visit Hawaii, they no longer think of our home as just a tourist destination. They think of Team 359, The Hawaiian Kids, and our STEM successes.