

2019



1902

4-H EXPLODING BACON ROBOTICS TEAM

INSPIRE

PARTNER

BUILD

SPARK SCIENCE KITS

- Spark kits are shoebox sized science kits with simple, reusable materials that are sent to children in communities with few resources
- 133 kits to 43 countries
- Connected with Tulane University to distribute 15 kits to teachers who work with at-risk students
- Distributed 45 kits to 25 countries at the FIRST Global Competition
- Eagle Scout Project created 60 kits & St. Margaret Mary Catholic donated \$1500
- Inspired by Exploding Science Resource Books: 1000 books shared at World's and 3,500 online

GOAL: Help children around the world become tomorrow's problem solvers

OUTREACH

- 6000+ student outreach hours 2014-19
- 200+ outreach demos in 2014-19
- Exposed FIRST to new audiences at professional conferences such as CXO, DMC, A3, & MHI
- sharing STEM passion through government advocacy
- improving EB students' communication skills
- inspiring young people locally & globally
- 8 yrs of Summer Camps, resulting in kids joining & starting FLL teams, as well as fundraising & sharing passion for STEM

GOAL: Connect with our local community, promoting growth in Central Florida & inspiring local youth

TEAM

- Our students interact with college mentors in respected leadership positions. Modeling a safe, family environment helps create student leaders who realize their potential in FIRST.
- Strengthen family atmosphere through game nights, team dinners, & beach days
- We reorganized team structure to increase student leadership responsibilities
- Our alumni have created FIRST Alumni Clubs at 3 FL Universities
- Annual Strategic Planning Meeting helps up plan for future opportunities & actively set goals
- We budget for our own year-round & centrally located build space
- Students actively fundraise by writing grants

GOAL: continue to create a sustainable team with confident students & dedicated mentors

DIGITAL MEDIA

- 12 social media accounts & 5 websites created & managed by EB
- Connect with other FIRST Teams across the globe
- Top 4 Finalist for 2014 World Championship Digital Media Award
- Provide awards, business, & robot resources for other teams to utilize

GOAL: connect with people around the world, creating awareness for 1902 & FIRST

FIRSTALLIANCES.ORG

- 160+ FIRST Teams in the directory & counting
- 55+ Programs | Open to all levels of FIRST
- Only web presence for 41% of FLL Directory Teams
- Regular Spotlights of Teams & Programs
- Tag & Location features provide easy accessibility
- Coded in Python and Marketed ground-up by EB students

GOAL: #TogetherWeInspire

#FIRSTLIKEAGIRL

- 75+ #FIRSTLikeAGirl Videos from 4 countries with more than 25,000 video views
- #FIRSTLikeAGirl 1 MILLION+ impressions/month
- Followers from 77+ countries engaged on Twitter & Instagram
- Numerous Fortune 500 companies, media outlets & numerous Global STEM organizations have embraced the message with retweets & tags
- 20 #FIRSTLikeAGirl Ambassadors across 4 countries, decentralizing the program

GOAL: Improve the culture of STEM by showcasing the stories of successful women & girls in FIRST

SPONSORS & PARTNERS

- Lockheed Martin: Otronicon 7 yrs, Bring Your Child to Work Day, 2 FLL events, & National STEM Day
- Comcast NBCUniversal: collaborating on #FIRSTLikeAGirl & Hackathon
- Tech communities such as the Orlando Tech Association, EdTech, & Lady Developers
- Revised 4-H Record Books to reflect FIRST
- Represented 4-H at the Florida State Fair in Feb
- Partnering with sheet metal sponsor, Magnus Hi-Tech

GOAL: work with local sponsors & partners to expand the reach of FIRST

BIG BACON THEORY OF IMAGE & MARKETING

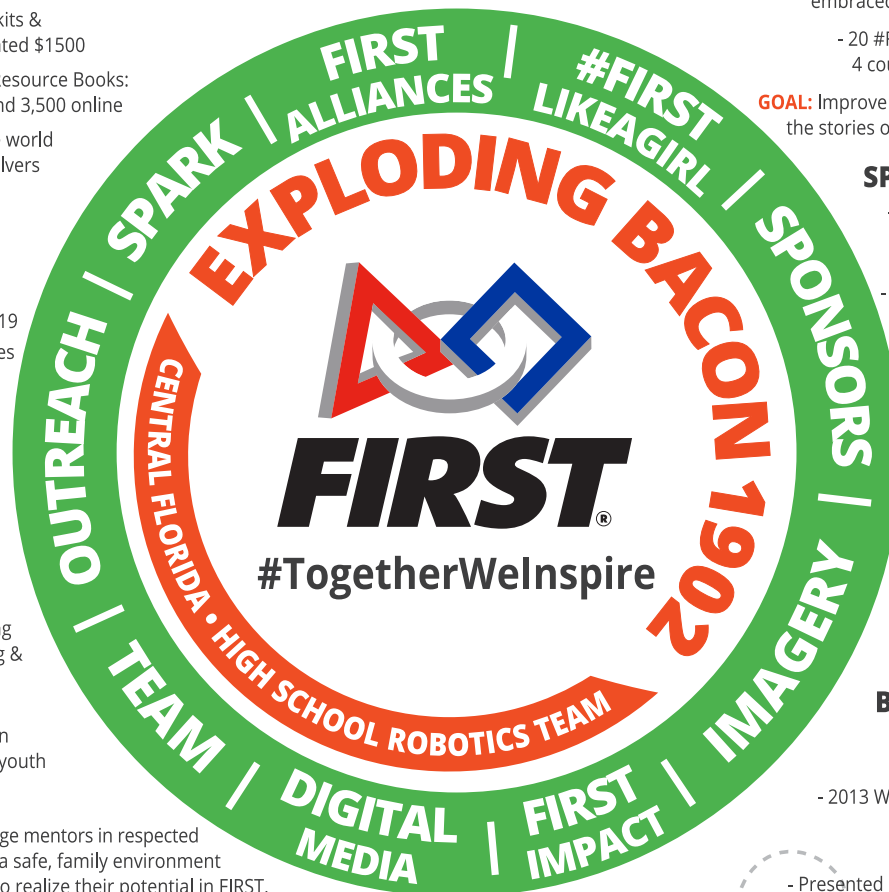
- 4 Regional Imagery Awards
- 2013 World Championship Imagery Award
- Expansion of Workshop to meet the needs of all FIRST Levels

- Presented 28 times, 9 at World Championship
 - Presentation at the FIRST Lego League Coaches Conference
 - Presenters of Behind the Lines Marketing & Branding S2, Eps 1
- GOAL:** continue to help FIRST teams with sustainability through improved image & marketing for recruiting & retaining students, mentors, & sponsors

ASSISTING & MENTORING TEAMS & HOSTING EVENTS

- EB has assisted & mentored 59 FIRST teams this season
- Host Preseason Workshops/Expo, FRC Kickoff, FLL Qualifiers, FLL Pre-Qualifiers, & FLL Jr. Expos
- Volunteering at FLL Jr & FLL Tournaments provides 1902 the opportunity to encourage & inspire students to progress to FTC & FRC
- Since 2015, 1902 increased from 37% to 65% FLL & FTC veterans

GOAL: Develop resources & increase support of teachers & coaches to develop & sustain FLL teams in Central FL



ENCOURAGE SUSTAIN REACH

CHANGING THE CULTURE

FUTURE PLANS | WHAT WE ARE ACCOMPLISHING NOW

SUSTAIN & CONNECT *FIRST* TEAMS

Big Bacon
Image & Mktg
28 Presentations
Distributed
1000+
Summer Camp
Resource Books
Support our
Int'l Friends

KICKOFF
FIRSTAlliances.org
160+ Teams
55+ Programs
Resources
For Teams,
Mentors, Alum
& Sponsors

Preseason
Workshops

Training &
Support for
FLL Success
Create a
Replicable Model
Promote global
collaboration

INCREASE SPONSOR SUPPORT OF *FIRST*

Demo
@Professional
Conferences
Local Tech
Groups
Support Our
Sponsors'
Endeavors

Sponsor
Brunch
& Updates
Ambassador
at Regionals
More Outreach
LOCAL
Businesses

Encourage
FIRST
Mentorship
Pursue
more Grants
Improved
Communication

EMPOWER GIRLS CONFIDENCE IN STEM

Inclusion
girls active on
all our sub teams
Strong Female
Role Models
86% Female
Board
Public Speaking
Opportunities

#FIRSTLikeAGirl
75+ VIDEOS
MILLIONS OF
#Impressions
Ambassadors

20K+
Buttons
Blog Interviews
Partner with
Existing Girls
in FIRST programs
Get funding to
Marketing Materials
to reach more girls
Share More
stories of
Influencers

EXPAND LOCAL INTEREST IN STEM

Summer
Camps
6000+ Hrs
Student Outreach
(2014-2019)

Enduring
Relationships
Library, Science
Center, Maker Faire,
Central FL Fair, NASA
& MORE

Government
Advocacy
Exploding
Science
experiments
FLL Support
Multiple Volunteer
Awards

Open Build
Space Nights
to excite STEM
interest
Increase FLL
Team Success
Partner w/
Schools & Teachers

STRENGTHEN INTERNAL STRUCTURE OF OUR TEAM

Family
Environment
Strategic
Planning
Support
Alum Goals

Manage
12 Social
Media Accounts,
5 Websites

Train
Students to
be future
Leaders
Make it FUN!
Culture of
continuing
college mentor
involvement

Permanent
Build Space
Improve
Recruitment
Connect for
internships &
opportunities

INSPIRE PASSION FOR STEM WORLDWIDE

Spark
133 Kits to
43 Countries
so far!
6 Languages
4 Translations
by FIRST teams:
ES FRC 2283,
FR FRC 5553,
EL FTC 13906
HE FRC 2212
#FIRSTLikeAGirl
- Videos in 4
Languages
- followers from
77+ countries
Dreamflight

Social Media
Reach
Reach more
children w/
help from 4-H
Recruit Spark
partners
Collaborate with
other FIRST
teams

EXPLODING BACON 1902





#FIRSTLikeAGirl

Encouraging girls around the world with the confidence to pursue their aspirations in STEM

77 Followers from
Countries
49 US States
9 Fortune 500 companies

75+ Videos
25,000 Views
of students, mentors, and
alumni from teams in Israel,
China, United States & Mexico

20
Ambassadors
from 4 Countries

20K+
BUTTONS distributed
by 30+ FIRST teams

one
Million/mo
Impressions of #FIRSTLikeAGirl
on Twitter, Instagram & Facebook

4
social media platforms
PLUS WEBSITE
   

Social Media Movement

In April of 2016, we created a social media movement #FIRSTLikeAGirl, which strives to improve the culture of STEM by sharing the stories of the inspirational women and girls in FIRST.

FIRST has recognized our #FIRSTLikeAGirl movement and plan to leverage the hashtag and amplify the network of supporters at the 2018 FIRST Championship, as a part of their Diversity & Inclusion efforts including a #FIRSTLikeAGirl panel workshop.

Spark SCIENCE KITS



Partnering with
Gra-V Robotics Team 5816,
provided the opportunity to
3-D print more than 50 cars
and screws for the kits.



Spark kits provide hands-on science experiments to
children in areas with few resources across the globe.

133 Science
Kits

43 Countries

16 Hands-on Science
Experiments

37 *FIRST* teams

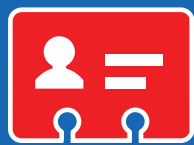
65 Spark Kits taken
back home by

6 Languages translated
by 4 *FIRST* teams

Based on our Exploding Science program, the goal of Spark is to inspire children in areas with few educational resources by sending boxes full of hands-on scientific experiments. The experiments are accompanied by an instruction booklet full of directions and information about the experiments for the facilitator of the group.

*Spark is laying the groundwork for the future
problem-solvers of the world.*

sparkimagination.org



FIRSTAlliances

Showcase and Inspire, Everywhere

We are constantly amazed by the impact that individual **FIRST** teams have on their communities. We believe that if **FIRST** teams work together as an Alliance, combining the impact of the 400,000+ students in **FIRST**, we can reach greater heights and inspire more people than ever before.

[Get Involved](#)[Tell Me More](#)

Business

28 entries



Programming

34 entries



Outreach

41 entries



Rookie Help

26 entries



Strategy

34 entries

FIRST Alliances is a directory of FIRST teams and their programs, highlighting their initiatives, strengths, and impact. Teams, sponsors, and external entities can discover teams and programs in one central location.

160+
Teams
FROM 10 COUNTRIES

81
FRC teams

47
FLL teams

33
FTC teams

2
FLL Jr teams

56
Programs

**Launched in Dec 2017 and still growing!*

Exploding Bacon has launched multiple outreach programs over the past couple years that have only seen success because many teams around the world have gotten involved. We love partnering with other teams, but often have trouble finding information about what they're doing to get out into their communities. We hope that FIRST Alliances will create a place where it is easy for connections between teams to be made.

Built and Managed by Bacon Members

firstalliances.org



4-H Exploding Bacon Robotics, Team 1902

A Record of the Past Five Years of our Impact

Uniting to change the culture by providing resources for *FIRST* teams, forging partnerships in our community & inspiring the next generation. With our far-reaching initiatives, #FIRSTLikeAGirl, Spark, & FIRSTAlliances we continue to change the world into one that celebrates STEM.

Table of Contents



About Our Team

- Overviews
- About 1902
- Awards

Team Outreach

- Outreach History
- Summer Camps
- Professional/Business Outreach
- Enduring Relationships

Image & Communications

- Social Media
- Big Bacon Theory of Image & Marketing Imagery
- Bacon In the News

Spark Science Kits

- Program Overview
- Spark Science Kits Map
- *FIRST* Impact
- Exploding Science Resource Books

#FIRSTLikeAGirl

- Program Overview
- *FIRST* Impact
- Program Reach

FIRSTAlliances.org

- Program Overview
- *FIRST* Participation

Business

- Business Plan
- Organizational Chart
- Strategic Planning

Sponsors

- Budget
- Sponsors
- Fundraising

Essay & Executive Summaries



4-H Exploding Bacon Robotics Team 1902



Celebrating Our 14th Season

FRC Students

28% female, 72% male

39 students from 13 schools,
plus homeschoolers

In 4 counties: Orange, Seminole,
Osceola & Volusia

65% have participated in
FLL Jr, FLL and/or FTC

50% are homeschooled students

Mission

Have fun doing cool things that help people

Vision

Grow capable leaders who will make a positive
impact

Mentors

10 dedicated college mentors

11 **FIRST ALUMNI** Mentors

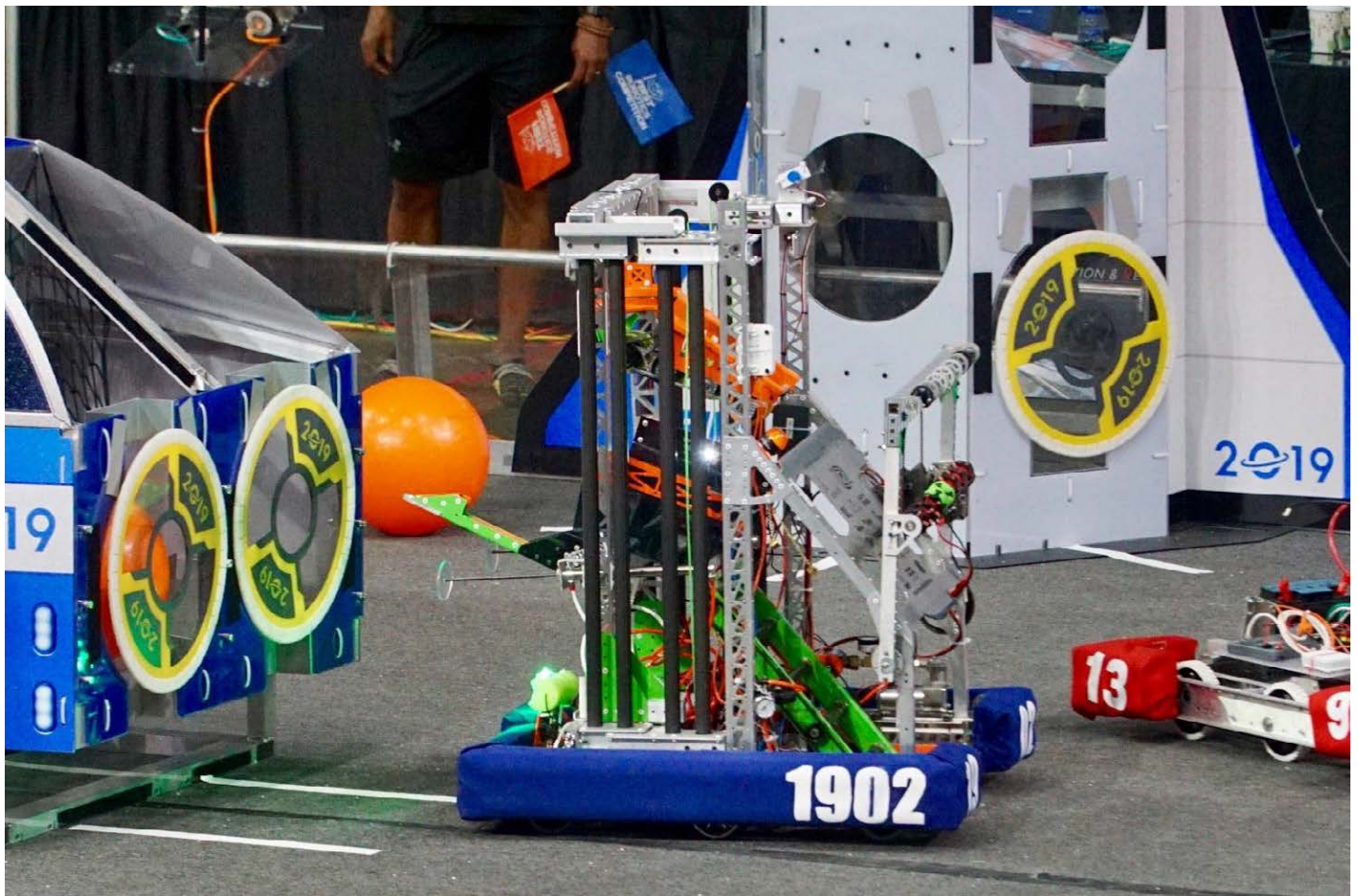
86% Female Board Members

Our Mentors work for: Comcast NBCUniversal,
Lockheed Martin, Walt Disney World, Cornell
University, self-employed, and more...

4-H

Our 4-H relationship not only provides us with
financial/liability support and non-profit status,
but also allows us to accept students from any
school district including homeschoolers.

***4-H provides us the ability to
meet our original founding goal:
to create an active, successful team in
which any student may join.***



DESTINATION: DEEP SPACE 2019

The Robot: Ham Solo

Ham Solo is Exploding Bacon's 14th robot, built to play the 2019 *FIRST* Robotics Competition Game "DESTINATION: DEEP SPACE".

Built to specialize at scoring in the cargo ship and all three levels of the rocket, Ham Solo utilizes an elevator lift and unique touch-and-go intake system. With a high gear speed of 14 fps and low gear pushing power, Ham Solo can compete offensively and defensively to maximize effectiveness for the alliance. Using vision tracking, Ham Solo can autonomously align to the target. This season Ham Solo competed at the Palmetto Regional, Orlando Regional and will compete at the Houston World Championship..

Facts

Name: Ham Solo

Status: Bagged, Awaiting Competition

Weight: 125 lbs

Competing

Palmetto Regional - Feb 28th-Mar 2nd

Orlando Regional - March 14th-16th

Houston World Championship - Apr 17-20

Robot Abilities

- Elevator Lift
- Touch-and-go Cargo Intake
- Panel Manipulator
- Vision Assisted Scoring

1902 FRC Awards

2019: Destination: Deep Space

- Chairman's Award, Orlando Regional
- Entrepreneurship Award, South Florida Regional
- Jordan Shavell, Dean's List, Orlando Regional

2018: Power Up

- Gracious Professionalism, Houston Championship
- Chairman's Award, Orlando Regional
- Entrepreneurship Award, South Florida Regional

2017: STEAMWORKS

- Chairman's Award Finalist, Houston Championship
- Chairman's Award, Orlando Regional
- Team Spirit Award, Bayou Regional
- Ryan Shavell, Dean's List, Bayou Regional

2016: Stronghold

- Chairman's Award, Inaugural Rocket City Regional

2015: Recycle Rush

- Chairman's Award, Inaugural Georgia Southern Classic Regional
- Imagery Award, Orlando Regional

2014: Aerial Assist

- Engineering Inspiration Award, South Florida Regional

2013: Ultimate Ascent

- Creativity Award, Orlando Regional
- Winner, South Florida Regional
- Chairman's Award, South Florida Regional
- Kris Walters, Dean's List, South Florida Regional
- Kamen Family Imagery Award, *FIRST* Championship

2012: Rebound Rumble

- Imagery Award, Orlando Regional
- Engineering Inspiration Award, Inaugural South Florida Regional
- Katie Austin, Dean's List, Inaugural South Florida Regional

2011: Logomotion

- Finalist, Florida Regional
- Governor's Award, Florida Regional
- Animation Award, Florida Regional
- Marissa Walters, Dean's List, Florida Regional
- Gracious Professionalism Award sponsored by Johnson & Johnson, Palmetto Regional

2010: Breakaway

- Chairman's Award, Florida Regional
- Imagery Award, Florida Regional
- Winner, North Carolina Regional
- Industrial Design Award sponsored by General Motors, North Carolina Regional

2009: Lunacy

- Animation Award, Florida Regional
- Gracious Professionalism Award sponsored by Johnson & Johnson, Florida Regional
- Autodesk Visualization Award, Florida Reg
- Winner, Connecticut Regional

2008: Overdrive

- Entrepreneurship Award, Florida Regional
- Motorola Quality Award, Bayou Regional

2007: Rack 'n Roll

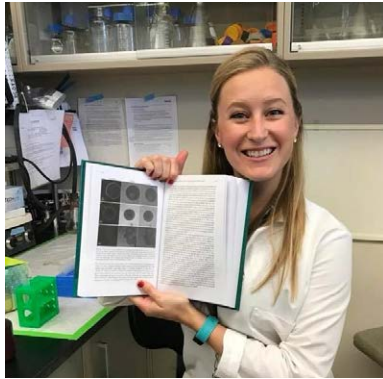
- Imagery Award, Florida Regional
- Finalist, Florida Regional
- Industrial Design Award sponsored by General Motors, Nevada Regional
- Winner – Galileo, *FIRST* Championship

2006: Aim High

- Rookie All-Star Award, Florida Regional
- Highest Rookie Seed, Florida Regional
- Finalist, Florida Regional
- Rookie Inspiration Award, Texas Regional
- Highest Rookie Seed, Texas Regional
- Finalist – Archimedes, *FIRST* Championship

49 *FIRST* Robotics
Competition Awards since 2006

1902 Alumni



Emily ('06) Published Chapter in STEM Textbook

Emily is an EB founding student and member of our first graduating class. She was first Published in 2018 in “Marine Organisms as Model System in Biology and Medicine.” She and her labmate Lauren Bates co-wrote a chapter and provided the images and figures.



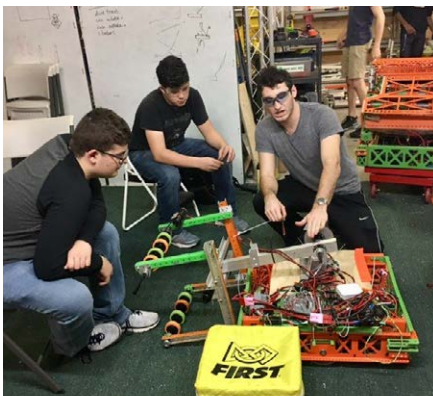
Jamison ('09), MIT Grad & ABC Battlebots

Jamison has since appeared on the TV show Battlebots numerous times, competing on multiple different teams. Most recently, he captained team SawBlaze and made it to the Top 16 elimination round for the 2018 season.



Zach ('13) Orange County 4-H Alumni of the Year

Zach has mentored the team since graduation and currently serves as one of the lead technical mentors. He earned his Bachelor's in Mechanical Engineering ('18). EB students nominated him for Alumni of the Year. He mentors students in learning strategic design, scouting, CAD, and mechanical.



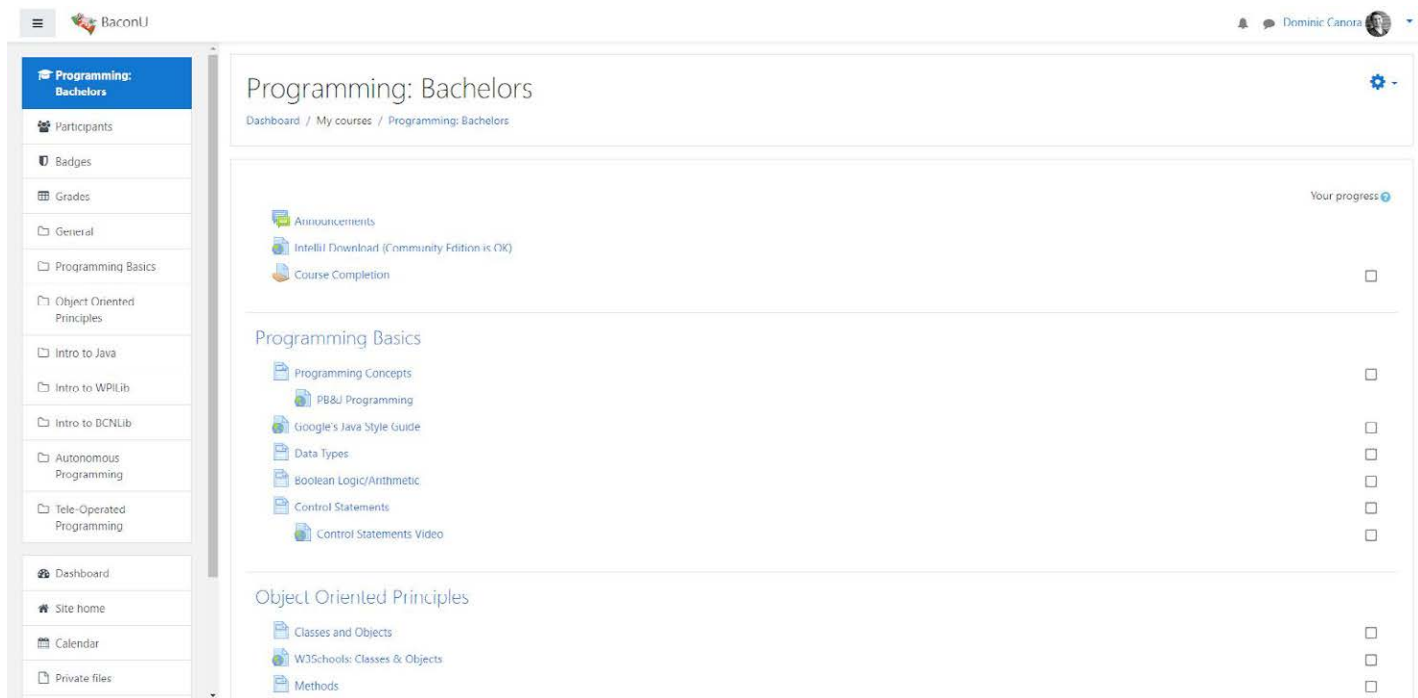
Skyler ('14) Internship at Comcast Spring 2019



Dominic ('17) Internship at Disney Summer 2019



Ryan ('18) Programmed App for EB Alumni Startup 2018



Bacon Robotics Curriculum

New for 2019-2020

Exploding Bacon is in the process of creating **Bacon University**. This large scale guided curriculum will give students a clear pathway to success on the team and in **FIRST** Robotics Competition as a whole.

Course pathways cover over 600 hours of presentations, activities, and deliverables in the areas such as mechanical design, fabrication, programming, physical control systems, strategic design, competition strategy and business and awards.

Bacon University is Exploding Bacon's plan for student training sustainability and *FIRST* robotics curriculum development.

Skill Pathways

Skill trees give students the opportunity to see what they do not know and give them control over their paths forward.

- General
- Mech Design
- Mech Fab
- CS Digital
- CS Physical
- Strat Design
- Event Strategy
- Combined Discipline Courses

Circle Christian 3-D Printing

4-H Exploding Bacon is assisting a local school with their 3-D printing program. Helping them to manage their 3-D printer and to print student projects in the absence of a teacher with 3-D printing experience.

Work Hard Play Hard





Started, Mentored, Assisted, Hosted, & Provided Published Resources

2014-19 A Consistent and Growing presence in *FIRST*

FIRST Robotics Competition

- **HOSTED KICK-OFFs**
 - 2019, 2018 Co-Hosted FRC Official Kickoff, at Mid-FL Tech with 5816
 - 2017 Official FRC Kickoff, Orlando Science Center. 21 teams, 250+ in attendance
 - 2016, 2015, 2014 Satellite FRC Kickoff w/ Wksp. Multiple FRC Teams
- **2019 Mentored:** 5816; **Assisted:** 79, 86, 313, 352, 972, 1369, 1557, 2096, 2152, 2212, 2491, 2723, 3008, 4118, 4151, 4639, 4795, 4946, 5140, 5190, 5196, 5410, 5412, 5414, 5466, 5663, 5987, 6024, 6184, 6814, 7152, 7215, 7409, 7416, 7427, 7461, 7475, 7528, 7651, 7728, 7851, 7902; **Started:** 7592
- **2018 Mentored** 5412, 6527 & 6473; **Assisted** 79, 313, 972, 1360, 1458, 1557, 1649, 1730, 1807, 1982, 2152, 2212, 2403, 2415, 2797, 2976, 3932, 4065, 4150, 4467, 4562, 4592, 4911, 4946, 5190, 5414, 5663, 5773, 5816, 5842, 5987, 6201, 6404, 6409, 6473, 7152, 7215, 7239
- **2017 Assisted** teams 945, 5926 & 6473, a local Boys & Girls Club rookie team (2016-17)
- **2016** Collaborated with Panteras 2283 to Translate Spark Instructions into Spanish
- **2015 Assisted:** 5816, 2797; 4 Chairman's teams at the Orlando Reg 1592, 2556, 1369, 180; **Mentored:** 5912, 6527
- Hosted online calls & interviews with FRC teams 2415, 4468, & 5926

FIRST Tech Challenge

- **2019 Assisted** 3 teams 9277, 10650, 12804; **Mentored** 15401, 15033, 5937; **Started:** 15033
- **2018 Mentored:** 5937, 9277, 10650; **Assisted:** MAV, 8601, 12715
- **2017 Mentored:** 5937

FIRST Lego League

- **2019 Started:** 39633, 39496, 38013; **Mentored:** 34572, 38012
- **2018 Assisted:** 1935, 19359, 31781, 17472; **Mentored:** 25574, 8265, 34572, 4460, 7715, 7714, 18226
- **RAN Tournaments:** Pre-Qualifying 2018, 2017, 2014; Qualifying 2015, 2013 FLL Bacon Blizzard
- **Assisted with:**
 - 2019, 2018, 2017 & 2016 Regional Championships for Central FL
 - Qualifiers: 2017 (2) Lockheed Martin, 2017 Bacon Builders
 - 2015 & 2014 Central Florida Regional Tournament
 - 2015 & 2014 State Championships (4 Years in a row St Champs volunteer award)
 - 2014 Open House
 - 2014 SPARK with team Falcon's Fury
 - 2014 Coaches Training

FIRST Lego League Jr

- 2019 & 2018 **Assisted:** 3096, 3390
- 2019, 2018 & 2017, 2016 **RAN** Expo at Orange Co Library
- 2017 & 2016 Expo, volunteered and **HOSTED** a science experiment booth

Provided Published Resources

- 4-H Project Book
- Exploding Science Resource Books
- #FIRSTLikeAGirl (Artwork buttons, signs, etc)
- FIRSTAlliances.org
- Big Bacon Theory of Image & Marketing
- Chairman's Workshops
- Skyler Goodell's Programming Videos

AS DEFINED BY THE:

ChairmansAwardSubmissionDefinitions.pdf

2017-19 ASSISTED TEAMS
61 FRC, 6 FTC, 6 FLL, & 2 FLL Jr.

2017-19 MENTORED TEAMS
5 FRC, 6 FTC, & 12 FLL



January 18, 2018

To Whom It May Concern:

I am writing regarding *FIRST*® Robotics Competition Team 1902 “Exploding Bacon” in recognition of their highly significant contributions to the *FIRST*® LEGO® League Jr. and *FIRST*® LEGO® League programs, and above all, their substantial work towards bettering our programs and propelling the mission of *FIRST*® forward. For the last six years, Exploding Bacon has been the “go to” team for our Program Staff when seeking outreach, exhibits, connections, progression of programs support, or the general support of fellow *FIRST* students and Program Alumni to strengthen our local efforts of inspiring the next generation of science and technology leaders.

Exploding Bacon's #*FIRST*LikeAGirl campaign has been a landmark for the efforts of diversity and inclusion in our State. Specifically, the ability of this campaign to strike at the heart of every participant to keep them mindful of the necessity of supporting young women's education in STEM career fields while also supporting our strategic pillars of expanding access and capacity for our programs has been truly remarkable. It also amazes me to say that this isn't their only campaign, and they have many others that create infrastructure for and inspire innovation among youth looking to learn more about STEM, leading them to participate in the *FIRST* programs as well.

Over the last six years, Exploding Bacon has also provided over 1,500 hours of volunteer time in support of our *FIRST* LEGO League Jr. and *FIRST* LEGO League Events, including hosting and administering Qualifying Events and Jr. Expos and directly both starting and mentoring multiple *FIRST* LEGO League Jr. and *FIRST* LEGO League teams. Their passion and dedication to all of the *FIRST* programs is highly commended as our programs would not be as successful as they have been without their assistance year after year.

In short, Exploding Bacon remains what I consider to be the exact definition and model of a *FIRST* team whose work is always exemplary and constantly pushes the bounds of success to continue changing our culture to one that celebrates STEM while creating the science and technology leaders and innovators of tomorrow who will enter the workforce and change the world. Exploding Bacon is the exact reason I continue to stay a part of *FIRST* as an Alumni and after 10 incredible years (and counting) of working locally: because their passion is inspiring and their belief in *FIRST* and in our mission is the exact catalyst for change we need today.

Thank you,

A handwritten signature in black ink, appearing to read "JT Yoerger".

JT Yoerger
Senior Manager, Events and Marketing/Communications
FIRST® LEGO® League Central Florida &
FIRST® LEGO® League Jr. Central Florida

*Central Florida Robotics is the official affiliate partner responsible for the administration, management, and delivery of the *FIRST*® LEGO® League Jr. and *FIRST*® LEGO® League Programs in Central Florida.*

FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY
www.CentralFloridaRobotics.org



2014-19 Outreach

A Consistent and Growing presence in *FIRST*



Big Bacon Theory of Image & Marketing (BBTIM) Workshop

presented to FIRST audiences 29 times:

- 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011 FIRST World Championships
- 2019, 2018, 2017, 2016, 2015, 2014 & 2013 Orlando Regional
- 2018, 2017 FLL Coaches Conference, Orlando
- 2016 Inaugural Rocket City Regional
- 2015, 2014 & 2013 1902 Unofficial FRC Kickoff
- 2015 FRC Behind the Lines: Mktg & Branding
- 2014 South Florida Regional
- 2014 & 2013 Panther Prowl
- Trinity Prep Mock Kick-off
- Tempest-n-Tampa (TNT)
- South Carolina Robotics Invitational and Workshops (SCRIW)

Chairman's Workshops

- 2019, 2018, 2017, & 2016 Kickoff
- 2018 Pre-Launch Workshops
- 2018 Chairman's Exchange, SFL Regional
- 2018 Chairman's Chat Panel, ORL Regional
- 2016 Roboticon
- 2016 Panther Prowl
- 2016 FIRST in AL

Demos in Collaboration with *FIRST*

- 2019, 2018, 2017 Otronicon
- 2018 Material & Handling Conference w/Don Bossi
- 2018, 2017, 2016, 2015, 2014 I/IT-SEC
- 2018, 2017, 2016 & 2015 A3 Business Forum Conf
- 2018, 2017, 2016, 2015, & 2014 Orlando Maker Faire
- 2017 Defense Manufacturers Conference with Dean Kamen
- 2017 CXO Executive Summit, with Don Bossi
- 2016 #FIRSTLikeAGirl Meet & Greet, Microsoft Store, Florida Mall
- 2016 National PTA Conference
- 2014 Orlando Mini-Maker Faire
- 2014 Emerson Exchange, Orlando Tech Conf
- 2014 Elliott Masie's Learning
- 2014 SLAS – Society for Laboratory Automation and Screening
- 2014 Siemens Volunteer Fair



Our Program Engagement

- #FIRSTLikeAGirl engaging 2000+ teams
- Spark Science Kits engaging 37 teams
- FIRSTAlliances.org participants: 160+ teams

1000+ FLL Students reached through Demos and mentoring

100s of FIRST teams impacted with 29 presentations of BBTIM

FullCircle Rookie Help & Discord

FullCircle is an international rookie help organization that was founded in 2018 by 5740 and 6814. Its goal is to partner rookie teams with experienced students and recent alumni from various FRC teams to make sure the rookies are successful and develop into sustainable, model *FIRST* teams.

FullCircle members have developed guides and resources for the rookie teams to read and learn from, and these resources are now linked from the NASA Robotics Alliance resources page:

<https://robotics.nasa.gov/home/word/index.php/frc-resources/>.

1902 has had two participants in the program (higher than any other non-founding team): Jordan, a standard mentor, and Ryan, one of the three program admins (the other two being from the program's two founding teams, 5740 and 6814)

Ryan was the primary writer and credited author for the electrical guide:

<http://fullcirclefrc.org/technical>

Jordan was the writer/author for the Relationships article. She is also the co-writer for Team Handbooks and Rookie Fundraising - all articles soon to be released.

Between the 9 rookies in the program's first year, there have been **6 Rookie All Star** wins across the regional, district, and district championship levels.

<http://fullcirclefrc.org/>

On Discord we have many student and alumni members representing our team on many servers including:

- The FRC Discord
- LGBTQ+ of FIRST
- The FTC Discord
- FGC
- and more...

All of these members provide insight, help, and encouragement to anyone they can. Two of our members, Ryan and Jordan, are server Moderators on the FRC server, maintaining a productive and welcoming community for the 8,200+ members.

Jordan is a LGBTQ+ of *FIRST* Administrator, also moderating and maintaining that Discord server. She is also involved in the FGC (*FIRST* Global Challenge) server where she represents our *FIRST*Alliances program as a staff member.



Professional Conferences



- **2018 Materials Handling Institute CEO Summit with Don Bossi a keynote speaker**
- 2018, 2017, 2016, 2015, 2014 I/IT-SEC
- **2017 Defense Manufacturing Conference with Dean Kamen as keynote speaker**
- **2017 CXO with Don Bossi as keynote speaker**
- 2018, 2017, 2016 & 2015 A3 Business Forum conference
- 2014 Emerson Exchange, Orlando Tech Conference
- 2014, 2013 Elliott Masie's Learning
- 2014 SLAS – Society for Laboratory Automation & Screening



“Presenting with Mr. Bossi at the CXO Executive Summit was a phenomenal learning experience that I will never forget”- Junior of 1902

FIRST Preseason Workshops & Expo



Exploding Bacon 1902 and Gra-V 5816 surveyed Florida teams to see what training they needed most, then planned **Destination Deep Space Pre-Launch**, a FRC Workshops & FIRST Expo day long event in August 2018. We invited teams to develop workshops for each other to **help Florida Teams unite and teach each other**

The 16 workshops took place in the morning and afternoon, with a Public Expo of robots from all levels of FIRST to demo to the community at lunch, There was also a **Women in STEM gathering** and a partner table for AT Makers.

16 Workshops Presented
13 Florida Teams attended
6 Teams presented workshops
9 Team demoed robots



DESTINATION: DEEP SPACE PRE-LAUNCH August 25th, 8:30am - 4:00pm

Presented by **BOEING**

Pre-Launch FRC Workshops At-a-Glance

	9:00am	10:00am	1:00pm	2:00pm
Awards Track	Chairman's	Judge Whispering	Business Plan	Dean's List / Woodie Flowers
Game Track	Scouting and Match Strategy	Trouble shooting Robot Panel	Passing Robot Inspection	Drive Team / Pit Crew
Design Track	Programming	CAD	Mechanical Design	Pneumatics
Business Track	Fundraising	Team Organization	FIRST 101	Mentor Meet-Up

Florida **FIRST** Robotics Competition Teams you can still register to join us!



MORE INFO @
explodingbacon.com/
first-workshops-expo/

LOCATION
Orange Technical College
Mid FL Campus
Oak Ridge Rd, Orlando, FL



Enduring Relationships in Our Community

Orange County Library

- **Melrose Center for Innovation & Technology**
 - Grand Opening
 - 1st, 2nd, & 3rd Anniversary Celebration
 - Robotics Day
 - Tech Talk
- **Downtown Library**
 - Lego Contest for past 5 years
 - FLL Jr Expo for past 3 years

Orlando Science Center

- Otronicon for past 11 years, since 2009
- Numerous demos at events

NASA

- NASA Mining Competition 2010, 2013, 2014, 2015, 2016, & 2018
- Dreamflight, 2013, 2014, 2015, 2016, & 2018

Orlando Maker Faire

- Demoing robots, since 2013

Central Florida Fair

- Fair Booth, since 2008

*We have **developed a strong relationship** with the Orange Co Library, Orlando Science Center, Orlando Maker Faire, NASA, and the Central FL Fair over the years to **build a strong presence of FIRST** to people of all ages in our community.*





Orlando's Small Tech Business

- Ed-tech
- Orlando Lady Developers
- Orlando Robotics and Makers Club
- Seminole Tech Chamber
- The Microsoft Store
- Lucerne
- Orlando Tech Association



Our Social Media presence led 4-H Exploding Bacon to an opportunity to present our robots and *FIRST* to an Ed-Tech Meet-up group of technology education-minded Central Floridians. This presentation led us to Code School and Orlando Tech Association (OTA). The Code School provided our students with free memberships for their programs and a 2-day internship for one of our students. We partnered with the OTA during Hour of Code in December at a local Middle School and in February presented Exploding Bacon and *FIRST* to OTA at their February Meet-up. In 2016-17, we have reached out to two new Meet-up groups, Orlando Robotics and Makers Club and Orlando Lady Developers. Through demos and the promotion of our Spark and #FIRSTLikeAGirl programs, we have ***spread the message of FIRST further in our community.*** The Orlando Lady Developers have planned a visit to our build space and are looking to mentor Exploding Bacon. At the Microsoft Store we organized a #FIRSTLikeAGirl meet up with several local FTC and FLL teams. ***It was a great chance to meet with girls from a variety of teams.***

At The Orlando Lady Developers meetup,

"We are trying to reach girls who may not have thought about joining a robotics team before."

- one of our students about #FIRSTLikeAGirl

Orlando has a booming tech community with numerous tech Meetups groups, including the Orlando Tech Association with 6,500+ members.

Exploding Science Summer Camps

2012 | 2013 | 2014 | 2015 |
2016 | 2017 | 2018 | 2019

Since starting Exploding Science Summer Camps in the summer of 2012, we have expanded the *FIRST* Lego League team members within Exploding Bacon, St. Luke's Presbyterian School, and other areas in Orange and Seminole Counties.

Our summer camps were built on the basis of our Exploding Science program and FLL Robotics.

Exploding Science is a series of hands on science experiments covering the topics of Physics, Chemistry, Simple Machines, and Alternative Energy. As a result of our LEGO Robotics Summer Camps, Exploding Science now covers Engineering concepts too.

In the early hours of the camp we focused on one of our science modules and then ***students learn programming, strategy, robot design*** and even name their team and develop a cheer. On the Friday of each week, we create a mock FLL tournament for the camp kids and the robots they had been working on all week.

Our team's ***students serve as mentors, develop, and present the lessons*** on the science experiments and FLL robotics. Bacon students learned the challenge of being a mentor: standing back, guiding students, encouraging, and not 'doing' for them. They learned ***the value of mentoring younger students*** as well as the value of the restraint shown by their FRC mentors and gained skills they will use for a lifetime. It was ***a truly rewarding experience*** for both the camp students and our team.

2 Camps are already scheduled for Summer 2019.

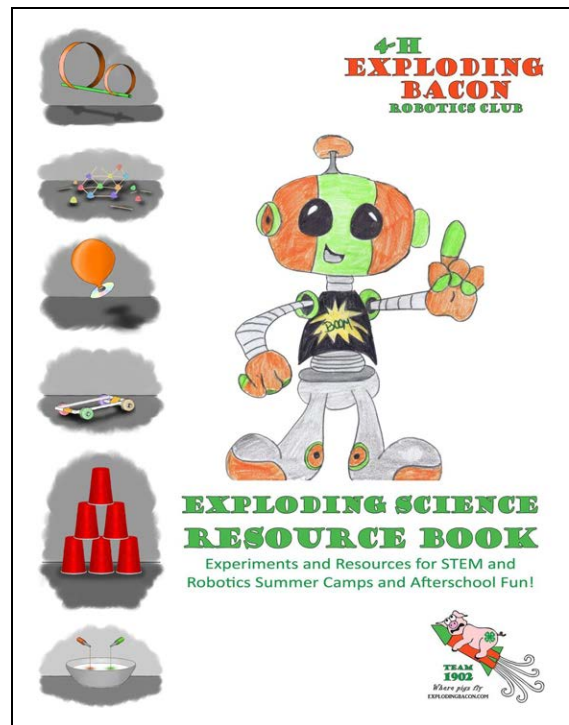
“Of all the summer camps that my 10 year old has experienced, this one takes the cake. Thank you for inspiring him.”

~Mother of a Summer Camp Attendee



Exploding Science Resource Books

Exploding Bacon's goal is to inspire children to explore science and technology, and to better share STEM subjects with children beyond our local communities, Exploding Bacon compiled all 38 of our activities and experiments into our Exploding Science Resource Books. These books include Directions, Explanations, Real World Applications, Add on Ideas and Diagrams for the activities. Exploding Bacon provides this resource on our website for other *FIRST* teams so that together we may start **a worldwide trend of fun STEM appreciation and inspire the next generation of innovative scientists and engineers.** These Resource Books are available for all *FIRST* teams so that they may **share their passion for STEM**, and fundraise for their team.



frc_4967
Preferred Tool & Die

Follow

frc_4967 You know your team uses a book a lot when it's this worn out!
#roboticsandsciencesummercamp #outreach
#omgrobots

exploding_bacon_robotics_1902 🤖🤖🤖🤖



18 likes

15 HOURS AGO

Distributed to 1000 to FRC Teams at World Champs
and 3500+ online downloads & USED!

FIRST Global Competition



In 2017... a group of Exploding Bacon students brought **27 Spark Kits and a bag of #FIRSTLikeAGirl buttons** to share with the teams of the inaugural FIRST Global Competition event in Washington, DC. We met teams from all over the world and were inspired by their determination, courage and joy. They were the **embodiment of the FIRST spirit** and we had a great time getting to know them and cheer for them. **Teams from 17 countries brought the 27 kits home** to share with schools and refugee camps around the world.

In 2018... one of our students, reached out to FGC Team America (FTC Team 9794, Wizards), who offered to take **20 Spark Science Kits to the 2018 competition in Mexico** to share them with other teams attending. In addition, we sent **100s of #FIRSTLikeAGirl buttons** and we were once again amazed at the response women and men, students, mentors and sponsors have to the empowering message.

In addition, the Wizards created an interest form which developed contact information for teams interested in **a total of 80 more kits** when funding makes them available.



45 Sparks Science Kits taken home by FGC teams from 25 Countries.



2014-19 Outreach

A Consistent and Growing presence in 4-H Communities

4-H OUTREACH

- 2019 Youth in Action Finalist
- 2018 Orange TV Segment
- 2018, 2014, & 2013 4-H Kick-off
- 2017 4-H STEM Day with Lockheed Martin
- 2017 Showcased in 4-H Florida video to promote robotics
- 2016 4-H round table discussion
- 2016 State Fair representative
- **FIRST** Record Books – available for all Orange County teams
- 2013, 2014, 2015, 2016 Central Florida Fair Booth with 4-H
- 2014 Robot Meetings
- NEW 2014 FIRST Project Books



*"Our Exploding Bacon 4-H robotics club embodies all the essential elements of the mission and goals of our global 4-H network, reaching out to **engage youth to reach their fullest potential** in a positive youth environment through experiential learning. I am amazed each time I attend one of Exploding Bacon's community events at the **enthusiasm, leadership, life and STEM skills evident** in the club members. This is by far one of our best 4-H clubs!"*

Richard Tyson, Ph.D.

University of Florida IFAS Extension Orange County

4-H Record Books

Orange County 4-H

Project work lies at the heart of the 4-H experience. Through 4-H projects, youth have an opportunity to gain **hands-on learning experiences** about a subject of personal interest. Along the way, 4-H youth learn responsibility, public speaking skills, teamwork and other vital life skills. As a 4-H team, it has been a challenge to complete the standard 4-H project books while following the tenets of **FIRST** and 4-H.



Bacon developed **4-H Record books for all levels of FIRST**. These record books are for **FIRST** students to use during the 4-H year & the **FIRST** season to keep record of team costs, award submissions and personal achievements, thus documenting their year in **FIRST** & 4-H.

Our modified **FIRST** specific 4-H Project Books are currently being reviewed by the 4-H State Science Action team for use by all Florida teams for students in all levels of **FIRST** to qualify for awards.



#Together WeInspire

All 1902 Outreach

A Consistent and Growing presence in *FIRST* & our community since 2006

Outreach 2019

- FRC Official Kickoff & Wksps w/ Gra-V
- Otronicon, Orl Science Center
- FLL State Invitational
- St. Margaret Mary Cub Scouts
- Spark Kit to volunteer at Palmetto Regional to take to Guatemala
- Orange Co Library, FLL Jr Expo
- Disney Pres. on Awards & Robot
- Liberty MS STEAM Night
- Lockheed Martin, Take Your Child to Work Day
- 2 Summer Camps
- Universal Media Tech Hack-a-thon

Outreach 2018

- FRC Official Kickoff & Wksps w/ Gra-V
- Otronicon, Orl Science Center
- A3 Business Forum Conf
- 3 Spark Kits to Haiti
- Orlando Tech Assoc presentation
- FLL Regional Championship
- OSC for Engineering Week
- Lockheed Martin Eng- Week
- Central Florida Fair, STEM Pav
- Orange Co Library, FLL Jr Expo
- 8 Spark Kits to teams attending the Orlando & South FL Regional
- 5 Spark Kits to local kids in need
- 12 Spark Kits, Suriname & Gyanna
- Lucerna STEM Fair Demo
- Seminole Co Chamber Tech Demo
- NASA Mining Camp Demo
- Bishop Moore HS Demo
- 2 Summer Camps
- 6 Spark Science Kits to Haiti
- Open House New Horizon West School Demo
- 20 Spark Science Kits to Team USA for FGC Teams
- #FIRSTLikeAGirl Taping Day
- OSC Hall of Heroes Demo
- Orlando Tech @ Mid FL
- PreLaunch Expo & Workshops
- #FIRSTLikeGirl Ambassador Mtg
- Lockheed Family Day
- Visited FL State Rep Carlos Smith
- FIRST LEGO League Coaches Conference, Imagery Workshop
- 4-H Club Kickoff
- Visited FL State Sen Linda Stewart
- Orange County TV taping

- Demoed at the MHI Executive Summit with the Pres of FIRST
- Dreamflight
- Circle Christian demo
- Orlando Maker Faire
- AT Makers Adapt-a-thon: helped other FIRST teams adapt toys
- Jackson Heights MS demo
- I/IT-SEC
- FIRST LEGO League Qualifier – Bacon Blast Off FLL Pre-Qualifier
- Girl Engineers of Tomorrow
- Gra-V & Lake Highland FLL tournaments

Outreach 2017

- FRC Official Kickoff, including Workshops at the Orl Science Ctr
- Otronicon, Orl Science Center
- Lockheed Martin, FLL Qualifier
- Bacon Builders, FIRST LEGO League Qualifier
- Orange County Library System, Melrose Center for Technology 3rd Creative Expo
- Seminole HS Girls Who Code Demo
- Central Florida FIRST LEGO League Regional Championship and Jr Expo
- 3 Spark Kits to Haiti
- Orange Co Library, FLL Jr Expo
- SUN 'n FUN Int'l Fly-In Expo, Lakeland
- Lockheed Martin, Bring Your Family to Work Day
- Women in Science, Orl Sci Ctr
- Orlando CXO Exec Summit
- Summer Camp
- St. Marg Mary Summer Camp Demo
- Spark Kit to Columbia
- 6 Spark Kits to India
- Summer Camp
- Spark to Australia
- 2 Spark Kits to Bangladesh
- 2 Spark Kits to Bahamas
- Spark Kit to Belgium
- Spark Kit to Bulgaria
- Spark Kit to China
- 6 Spark Kits to Cyprus
- Spark Kit to Denmark
- Spark Kit to Myanmar
- 3 Spark Kits to Rwanda
- Spark Kit to Seychelles
- Spark Kit to Slovenia

- Spark Kit to Suriname
- Spark Kit to Tunisia
- Spark Kit to Uganda
- Spark Kit to England
- Spark to Maryland, US – Summer Camp for at-risk kids
- Apopka VBS Demo
- Lady Lake Library Demo
- UCF College of Eng and Computer Science Day w/The Boys & Girls Club
- #FIRSTLikeAGirl Video Filming
- Spark Kit to England
- Altamonte Springs Rotary Club
- Tedx LSSC
- 15 Spark Kits to Louisiana teachers
- 4-H National Science Day
- NBC University Media Tech Hackathon
- Maker Faire, Orl Science Cntr
- FLL Big Bacon Theory of Imagery & Marketing Workshop
- 3 Spark Kits to Columbia
- #FIRSTLikeAGirl Video Filming
- I-IT/SEC
- Jackson Heights Middle School STEAM Night
- Volunteered at Gra-V's FLL Pre-Qualifier
- Orange Co Library LEGO Conf
- IFPS
- Defense Manufacturing Conf
- FLL Qualifier
- Donations for (H.O.M.E.) Helping Others Make the Effort.

Outreach 2016

- FRC Satellite Kickoff
- Otronicon, Orl Science Center
- A3 Business Forum Conf
- FL State Fair, 4-H Pavilion
- Or Co Library System, Melrose Ctr for Technology 2nd Anniversary
- Orlando Tech Association pres
- Central FL Fair, STEM Pavilion
- Cent FL Reg Champ Tourn, FLL Jr & FLL
- Spark Kit to Haiti
- Orlando Tech Week Conference
- KSC Mining Competition
- Altamonte Rotary Breakfast
- UCF Secondary Science Teacher Demo about FIRST

- UCF Secondary Science Teacher Demo about *FIRST*
- Summer Camp
- National PTA Conference
- Summer Camp
- 4-H Awards Ceremony
- Orlando Robotics & Maker Meetup Demo
- #FIRSTLikeAGirl Meet & Greet, Microsoft Store, Florida Mall
- FLL Kickoff, Orlando Science Center
- Panther Prowl, Chairman's Wksp
- Spark Kit to Baja, Mexico
- Haiti Christmas bags
- *FIRST* in Alabama, Chairman's Workshop
- Roboticon, #FIRSTLikeAGirl video taping and Chairman's Workshop
- Dreamflight
- Orlando Maker Faire
- Circle Christian School STEM Camp Demo
- FPS
- I-IT/SEC
- Orange Co Library, Lego Contest
- HOSTED FLL Pre-Qualifier

Outreach 2015

- FRC Kickoff
- Otronicon, Orl Science Center
- A3 Business Forum Conf
- Spark Kit testing with FLL team Falcon's Fury
- National Fluid Power Society Demo
- Central Florida FLL Regional Tournament
- Orange Co Library System, Melrose Center for Technology Anniversary Celebration
- FLL State Championships
- 4-H Central Florida Fair Booth
- Girl and Boy Scout STEM-a-Palooza
- BurgerFi Fundraiser Demo
- Spark Kit for Home of the Holy Angels, Uganda
- Spark Kit for Nicaragua
- Spark Kit to Honduras
- Spark Kit to Jamaica
- Universal, *FIRST* Mentor Recruitment demo

- Vista Lakes STEM 3rd-5th grade Demo
- NASA Robotic Mining Competition at Kennedy Space Center (formerly as the Lunabotics Mining Comp.)
- Orange County Library System, Melrose Center Robotics Day demo
- St. Luke's Summer Camp
- Florida Kids and Family Expo, Convention Center
- Orlando Maker Faire, Orlando Science Center
- Mid-FL Tech Rookie Team Open House
- Dreamflight
- STEM: Ed Tech Orlando Meetup Group Demo
- Mini Makers-Faire, Waterford
- 2015 Lake Highland Prep Demo
- Fluid Power Society demo
- Unofficial *FIRST* Beach Day
- I/ITSEC Simulation, Modeling and Training Conf.
- LEGO Contest Demo
- Lake Highland Prep Demo
- Orange Co. Library Lego Contest Demo
- Orlando Tech Association presentation
- Central Florida Fair, STEM Pavilion
- Central Florida Regional Championship Tournament, FLL Jr & FLL
- Spark Kit to Haiti
- National 4-H /Lockheed Roundtable Discussion
- Hosting FLL Jr Expo

Outreach 2014

- FRC Kickoff
- Ronald McDonald House Tour
- Otronicon, Orl Science Ctr
- National FPS Demo
- Edgewood's Children's Ranch Demo
- Central Florida FLL Regional Tournament
- Orange County Library System, Melrose Center for Technology Grand Opening
- OCLS Melrose Center for Technology – Tech Talk
- Boy Scout Banquet Demo

- STEM Day at the Florida State Capital
- FLL State Championships
- Central Florida Fair Booth with 4-H
- Vista Lakes K-2 STEM fair Demo
- Evan's High School Explorer STEM Post Demo
- Vista Lakes STEM 3rd-5th grade Demo
- Bishop Moore High School Demo
- NASA Robotic Mining Competition at Kennedy Space Center (formerly known as the Lunabotics Mining Competition)
- Women in Defense Scholarship Fundraiser
- Orange County Library System, Melrose Center for Technology Demo
- World Future 2014 Beta Launch
- Bridges Community Center Demo
- St. Luke's Summer Camp
- WPHS Freshman Orientation Demo
- FLL Open House
- FLL Coaches Training
- Engineering & Construction Contracting Conf Demo
- Grace Homeschool STEM Class, Demo 2013 W-Ham-O robot
- Clermont Family Martial Arts Center, Demo 2014 Boxer robot
- Downtown Orlando Menchie's Fundraiser
- Orlando Mini-Maker Faire
- Emerson Exchange, Orlando tech conference
- Dreamflight Demo
- Big Hero 6 demo
- Interlachen Country Club, Demo and Science Experiments
- I/ITSEC Simulation, Modeling and Training Conference
- HOSTED 2014 FLL Pre-Qualifying Tournament
- Stenstrom Elem. Science Faire
- Orange Co. Library

6000+ Hours | 200+ Outreaches *Since 2014*

Outreach 2013

- Lego Contest Demo
- FRC Kickoff
- SLAS – Society for Laboratory Automation and Screening
- Otronicon, Orl Science Cntr
- California Pizza Kitchen Fundraiser Demo
- Research Park Open House
- Central Florida Fair
- LEGO Showcase
- Pineloch Elementary
- NASA KSC, Lunabotics
- St. Luke's Lutheran Church Summer Camps
- Kennedy Space Center, Space Camp Demos
- Siemens Volunteer Fair
- Arbor School Open House
- 4-H Kick-off
- 4-H Meet & Greet
- Magnus Hi-Tech Demo
- Mini-Maker Faire
- Hamilton Elem Demo
- Homeschool Eleme Demo
- Dreamflight Demo
- Elliott Masie's Learning '14
- 2013 Astronaut Scholarship Foundation AAMS Demo
- Orlando Home Educator-Demo
- Orange Co. Library Lego Contest Demo
- FLL Bacon Blizzard Qualifying Tournament
- Fluid Power Society Demo
- Downtown Orlando Menchie's Fundraiser
- City of Maitland Farmers Market demos
- Light Up UCF
- 4-H Lockheed Martin Volunteer Recruitment
- Winter Park HS Main Campus and 9th Grade Center demos

Outreach 2012

- Hosted Central Florida FRC Kickoff with 4 Workshops including Big Bacon Image Workshop

- Exploding Science
- Otronicon
- Fox Am News
- Central Florida Fair
- Lake Nona Rotary Club
- Dommerich Beach and Civic Association
- PTC Users Conference
- IBM Conference
- Boy Scouts, Robotics Merit Badge
- St. Luke's Lutheran Church Summer Camps
- 4-H Kickoff
- Lockheed Martin Family Day
- Lockheed Day of Caring
- Automotive Recyclers Assoc. ARA
- UCF Engineering Frat Demo
- DeVry Programming Boot Camp
- Hosted FLL Fall Madness
- Jr FLL Demo
- Orangewood Christian School Demo

Outreach 2011

- Otronicon
- Central Florida Fair
- Lockheed, Bring Your Child to Work Day
- FIRST Collaborative 11, Technology and Applications Forum for the Oracle Community
- Big Bacon Image Workshop, FIRST World's Championships
- Toured Rolls Royce
- IRI
- Makin' Bacon Scholarship Workshop
- Orange Co Downtown Library, demo
- 4-H Kickoff
- Sponsor Dinner
- UCF Outreach for Elementary Education
- TNT, Big Bacon Image Workshop
- FTC Kick-off
- Central FL Aerospace Academy demo
- South Carolina Robotics Invitational and Workshops (SCRIW), Big Bacon Image Workshop
- Living Well Expo
- Edgewood Children's Ranch Outreach/Demo, Day of Caring
- Lockheed Martin Tech Day
- Cypress Creek HS, robot demo

- BLAST Showcase (Disney Demo, D&E Project Showcase)
- Learning 2011
- ***Exploding Science created and started sharing with afterschool programs***
- Astronaut Scholarship Foundation's Astronaut Memorabilia and Signing Show
- Central Florida Fluid Power Society
- Hosted FLL Mall Madness
- Trinity Prep, Mock Kick-off – Big Bacon Image Workshop
- Cub Scout demo
- EA Sports Sharky Awards Video
- Gator Robotics Showcase, University of Florida

Outreach 2010

- Gave a presentation at the Colonial High School FLL tournament and showed them how our FTC bot worked.
- Participated in Otronicon at the Orlando Science Center. Thousands visited our booth over the 4 day event.
- Participated in Central Florida Fair 4-H events.
- Assisted FIRST at the Florida State FTC Championships with volunteers and clean-up.
- Boy Scout Day at the UCF Arena. Teamed with BAD to staff a booth and demoed to thousands of Scouts.
- Attended the NASA Lunatics Mining Competition.
- Presented an open house for Team 1875 discuss aspects of FIRST and demo bots.
- Hosted The Central Florida Lego Challenge, a 'Mini' bot tournament for the Girl Scouts.
- Demonstration for Aloma Methodist Church Summer Program.
- Met with personnel from Indra Systems and got to try out their simulators.

Through science experiments, robots, and kids in orange sleeves we have spread our passion for STEM & FIRST and built a reputation.

- Demonstration event for the Citrus Council of the Girl Scouts Summer Lego Camp.
- Participated at the Annual Cattleman's Breakfast Fundraiser.
- FRC and FTC robots attended (and were a real hit) at the PTC users Convention.
- Robot demos at 4 library branches for Orange CoLibrary System
- Exploding Bacon hosts FLL coaches workshop at Lockheed Martin
- 4H Kick-Off
- Kennedy Space Center- introduced our FTC bot to many astronauts!
- Ongoing project where Team members provide math tutoring to Middle School kids.
- Rockwell Automation Fair – FRC robot, 'Bacon Strips', performs for over 10,000 attendees!
- Boys and Girls Clubs of Pine Hills. Helped FLL teams with set-up, programming and strategies.
- Breakfast and a Movie – (Exploding) Bacon served up breakfast and team videos to 2 BAE Systems offices.
- Our robot attended 3 science classes at the Good Shepard Catholic School
- Participated with Chick-Fil-A to make over 100 bags of food for kids at local elementary schools.
- Volunteering at numerous FIRST events.
- Viral Video Project Great Fun!

Outreach 2009

- Florida State Fair Exhibitors
- 4-H Eco-Saves Day Exhibitors
- 8 Library robot demos
- 2 Chick-Fil-a spirit nights
- Chick-Fil-A thanksgiving baskets
- Central Florida Fair Booth Exhibit
- Back to school
- Playground Lake Eola
- Cattlemen pancake breakfast
- Fluid Power Society presentation
- FLL tournament unofficial scrimmage
- Otronicon exhibit at Orl Science Ctr

- FLL team mentoring
- Volunteering at FLL tournament at Colonial High School
- FTC State Championship volunteers
- FTC State Championship sponsor
- FTC Lake Nona mentoring
- 4H Central Florida Fair Exhibit Booth Lockheed Martin Bring Daughter to workday
- Lockheed Martin E-week
- TNT-Fun-Time Coordinator
- Sponsorship Dinner
- Pigging Fundraiser- planting front yards with foam pigs
- Special Olympics Emcee and Spirit Section
- Bread of Life – food delivery program in West Orange County
- Staffed FIRST booth at PTC USER World Event 200
- 2 Bacon LAN Parties - fundraised by hosting LAN parties at the 4-H center. We invited families, friends and classmates to come to play and compete with the team.

Outreach 2008

- Library presentations
- Shuttle launch
- 4-H Lego robotics camp (Summer)
- Girls and Boys Scouts
- Presentations to companies
- Mall Madness Lego Tournament
- Dark SkyFestival-Harmony,FL
- Wall-E Premiere
- TNT fun-time coordinator
- Waterford Education Festival
- Take Your Child to Work Day
- Engineering Week
- FTC Central Florida Kick-off Host
- Orange County Central Florida Fair
- FTC Florida State Competition Host
- Robots In Action!
- Exploding Bacon partnered with the Orange Co Library System to bring our program "Robots in Action" to many of the 14 branches of the Library.

Outreach 2007

- Lockheed Martin "take your child to work day"
- FloridaVEX State Competition
- Siemens
- INCOSE
- Learning 2000
- Kiwanis Club
- Outback Steakhouse Restaurant
- Boy Scout Vex Competition
- During the off-season we decided we would experiment with the Vex program. We partnered with Boy Scout Troop 363 to hold an unofficial VEX competition. It was open to FRC teams, Boy Scout teams, father-son teams, and anyone else who wanted to participate. Our team had such a fun time hosting the competition, that we decided to form an official VEX team to compete in FVC.

Outreach 2006

We hit the ground running in our rookie year.

- In 2006, Exploding Bacon partnered with Chick Fil A and Cheney Elementary by making science exciting for the third grade. Once a month our students would visit the school and present a hands-on science lesson. For instance one month we taught them Physics party tricks, how to pull a tablecloth out from under a set table using inertia.
- Girl Scout Demo Bacon participated in "Discovery Days" sponsored by Society of Women Engineers. It was a full day event held at the east campus of Valencia Community College. Our team took the robot and showed the girls how it worked and answered questions.

14 years of enduring relationships and growing impact at home and around the world.



BIGbacon

Theory of

Image & Marketing



Big Bacon Theory of Image and Marketing was developed to provide fellow **FIRST** teams with helpful information to coordinate their marketing & Imagery efforts and Chairman's materials. Each year our students present to about 100 **FIRST** teams. After winning two Regional Imagery Awards, Exploding Bacon assembled a presentation from our lessons learned to provide a marketing workshop for the 2011 **FIRST** World Championship in St. Louis. In 2013, Exploding Bacon 1902 was the recipient of the 2013 World Championship Kamen Family Imagery Award.

9

Years

29

Presentations

9

at World Champs

“

*Thanks again for your advice, we took it to heart and put it into practice. We had such success last year that we are actually enjoying the challenge of re-imaging ourselves with an equally memorable brand. We get inspiration from any source we can --- you are included in that too. Thank you for making the materials so one we look up to as a role model. Thanks again for all you do --- **you are the epitome of Gracious Professionals.***

- DaMoose 5926

”

“

We are a fairly new team, this is our 4th year. The workshop really helped me focus on how to help the students on our team learn to brand and market our Team. Your team has been so helpful in answering some questions for me on Facebook. I was very impressed with the friendliness of your Team and it's spirit. Keep up the amazing work!! I hope we can meet up at Worlds again so some of our students can attend your workshop.

- Huntington 5016

”

“

We used your workshop to help us rebrand our team for this year.

- Smithtown Robotics 810

”

PROVIDING **BRANDING & IMAGERY** RESOURCES FOR FIRST TEAMS



Imagery for **FIRST** Teams

Some helpful recommendations from Team 1902

Imagery is not a logo or color. It is everything you do as a team. It is the culture of your team.

Whether your team is all about the Pink suits, furry hats, khaki's and polo's or jeans and a baseball tee with a snazzy pair of pig ears, your image and culture is yours and needs to be protected and nurtured.

Know Who You Are as a team and that will be your image. Meet as a team and form a mission statement, create goals, identify what is important to your team, and establish guidelines of how your team presents itself. Elements of Strategic Planning can be helpful in defining who you are and what you aim to be.

In **FIRST**, the primary marketing tool of your team is usually the team shirt. It identifies you and can be of value when traded at competitions. Some teams also have buttons, cheese wedge hats, bright blue pants, bee antennae, tiger ears or other team related accessories.

Also decide on your additional marketing tools: business cards, pit design elements, tri-folds, flyers, marketing packets, inflatable aliens... things you might need to present yourself to the **FIRST** community and to your local community.

Visit the Resources section of explodingbacon.com for more info

4-H EXPLODING BACON ROBOTICS CLUB, TEAM 1902 | EXPLODINGBACON.COM

Identify Your Colors

Visit/ask your shirt or printing company for the specific Pantone colors your team uses. You can then use those Pantone colors with an online converter to find the equivalent RGB for use online and in Microsoft programs, CMYK for use in graphics programs for print, and Hexadecimal values for web use.

Logo Files

Provide your team members with multiple types of easy to access logo files.

- jpgs, pngs, gifs and vector files
- pngs and gifs can be created as transparent images for use on multiple color backgrounds.
- vector graphics can be increased to any size as needed
- jpgs, gifs, pngs are raster graphics, meaning there are limits to size use.

Maintain control of your image by being clear about the proper use of logos, colors, team name and tagline elements.

FIRST Branding Guidelines

You should be familiar with the **FIRST** Branding Guidelines to make sure you use the **FIRST** logo properly as well. www.usfirst.org/robotics/programs/marketing-tools/brand

FIRST Branding can also be a helpful guideline to creating your own guidelines.

#OinkOinkBacon

4-H EXPLODING BACON ROBOTICS CLUB, TEAM 1902 | EXPLODINGBACON.COM

ADDITIONAL RESOURCES ON OUR WEBSITE FOR **FIRST** TEAMS

- Big Bacon Theory
- Imagery and Branding for FIRST Teams
- #FIRSTLikeaGirl
- Spark Science Kits
- FIRSTAlliances.org
- Chairman's Award Workshop
- Summer Class Resources
- Exploding Science Resource Book
- Java Programming Videos
- FRC & FTC Resources
- FLL & FLL Jr. Resources

TEAM IMAGERY INVENTORY

Team #	
Team Name	
Logo Fonts	
Logo Colors	
Tagline	
PANTONE (Print)	CMYK (Print)
RGB (Web & Word)	HEXDECIMAL (Web)
Complimentary colors	
Complimentary fonts	
Logo file locations	
Should have available: jpegs, pngs or gifs (transparent), vector artwork	
Website Information	
Domain login:	
Hosting co. login:	
Website interface:	
Communications Audit	
Channel	Graphics/ colors/ fonts/ logos
Website	Your voice/ tone
Facebook	consistent message
Twitter	Audience(s)
Blog	Schedule
Print	Team & FIRST Branding consistency
	Contact info

4-H Exploding Bacon, Team 1902 | explodingbacon.com | info@explodingbacon.com

STRATEGIC PLANNING

Mission Statement (why are we a team)	
Vision Statement (clear & inspirational long term statement)	
Brainstorm and prioritize your top...	
Values	
1.	
2.	
3.	
4.	
5.	
Goals/Priorities	
1.	
2.	
3.	
4.	
5.	
Use as a tool by evaluating team decisions based on whether or not they align with the values & priorities you have identified.	
To better guide your team in decision making create	
<ul style="list-style-type: none"> • Business Plan • Marketing Plan • Social Media Plan/Guidelines 	

4-H Exploding Bacon, Team 1902 | explodingbacon.com | info@explodingbacon.com

These flyers & worksheets are distributed on our website and at all presentations.



May 30, 2014

FIRST Robotics Team 1902
Joyce Walters
5727 Bible Camp Road
Groveland, FL 34736

Dear FIRST® Robotics Team 1902:

On behalf of our team at Comcast and NBCUniversal, I want to congratulate you for your performance in the 2014 FIRST® Robotics Competition season.

We were particularly impressed by your team's submission for the 2014 Media & Technology Innovation Award, which we proudly sponsor. While your team was not selected as this year's winner, your nomination landed among our top four finalists. This is no easy feat considering over 150 teams from around the world applied for the award.

Our selection committee applauds you for your creativity and passion, which were clearly evident in your submission. We strongly encourage your team to reapply next year.

We are proud to support FIRST® and teams like yours. Keep up the great work.

Sincerely,

John Schanz
Executive Vice President &
Chief Network Officer
Comcast Cable

cc: Lisa Vincent, Grants Manager, FIRST®

2014-19 Media

Space-themed FIRST Robotics Competition

blasting off at CFE Arena, 03-15-19

<https://www.clickorlando.com/news/space-themed-first-robotic-s-competition-blasting-off-at-cfe-arena>

SOLIDWORKS Blog, SOLIDWORKS xDesign, 12/21/18

<https://blogs.solidworks.com/teacher/2018/12/xdesign-frc-winner-2018.htm>

MHI Article, Viche Thomas, Q4 2018

https://www.mhisolutions-digital.com/mhiq/0418_volume_6_issue_4/MobilePagedArticle.action?articleId=1423660#articleId1423660

#FIRSTLikeAGirl Paves a Broad and Welcoming

Road for Girls in STEM, Article scheduled to be published by Amy Poehler Smart Girls as of 04/16/18

Nothing is Impossible..., Victron Energy BV, 03-16-18

victronenergy.com/blog/2018/03/16/nothing-is-impossible/

I/ITSEC 2017, STEM interview, Nov 28, 2017

<https://www.youtube.com/watch?v=yONcDkGL7LY>

Lockheed Martin Supports Orlando FIRST Robotics

Competition, Following Orlando Regional March 2017
lockheedmartin.com/us/mfc/community/mfc-lockheed-martin-supports-orlando-first-robotics-competition.html

Knights' Love For Bacon And Bots

UCF Alumni Today, 05-10-17
ucfalumnitoday.com/tag/exploding-bacon/

'FIRST' Bayou Regional Robotics competition in

Kenner, WGNO, ABC, Louisiana, 03-23-17 wgno.com/2017/03/23/first-bayou-regional-robotics-competition-in-kenner/

Florida 4-H Youth Development Program, Florida 4-H,

02-12-17, www.youtube.com/watch?v=cNdrJtkmYEQ

UCF Live Interview at Otronicon at Orlando Science

Center, UCF Live, 01-13-17 www.facebook.com/UCF/

Exploding Bacon Alumni at University of Florida FRC

Kick-off, Alligator, 01-08-17 www.alligator.org/news/campus/article_4467cbf8-d626-11e6-94e6-83ff056c8b74.html

Exploding Bacon Robotics (FRC 1902) @

ROBOTICON Tampa Bay 2016

Saturday 10-08-16 (00:09:20)
plughitzlive.com/radio/6-1474-exploding-bacon-robotics-frc-1902-roboticon-tampa-bay-2016.html

UO Sponsored FIRST Robotics Team Makes World

Championships, August-September 2016, Universal Orlando Resort™ Team Member Newsletter

F4 FRC Network Videos, Outreach, Ep. 12 - 05-29-16

www.youtube.com/watch?v=DetVugmkdfs

Exploding Bacon combines FIRST robotics and 4-H to create unique club

Florida 4-H, 04-08-16, florida4h.org/blog/exploding-bacon-combines-first-robotics-and-4-h-to-create-unique-club

F4 FRC Network Videos, Bag and Tag

Ep. 1 - 03-01-16 www.youtube.com/watch?v=41J-ZPWeQjE

FIRST Behind the Lines, Fundraising 101/ Team Marketing 101, 10-07-15

firstinspires.org/resource-library/frc/behind-the-lines

NBCUniversal Comcast Recycle Rush High School

Students, NBCUniversal.com, 04-21-15
www.nbcuniversal.com/article/nbcuniversal-comcast-recycle-rush-high-school-students

Universal Orlando Mentors FIRST Robotics Team

UniversalOrlando.com, 03-14-15
blog.universalorlando.com/extras/first-robotics-team/

Robotics Competition Held in Orlando, CBS News

Channel 6, Orlando, 03-14-15, m.clickorlando.com/news/robotics-competition-held-in-orlando/31806032

Local Robotics Team Wins Prestigious

Award on the Road, 03-11-15 Four Corners, Clermont News Leader, Local So Lake Co news leader, & Apopka Chief

STEM Careers, Soft Skills, and Exploding Bacon

HRM America, 07-17-14
www.hrmamerica.com/blog/Kelley-patient/stem-careers-soft-skills-and-exploding-bacon-18

Orlando FIRST 2014 Regional Competition

Robot Magazine, May/June 2014

Robots Club Builds for Successful Year

Hagerty High School, by Daniella Parcell, News Editor, September 2014

Orlando's Maker Magic, MakeZine

1902 and FIRST mentioned, 09-15-14
makezine.com/2014/09/15/orlandos-maker-magic/

Meet the Robot Makers of FIRST, Maker Faire

Orlando: 1902 and FIRST mentioned, 09-09-14

Exploding Bacon First Robotics Team Visits MVA

montverde.org/2014/05/07/exploding-bacon-first-robotics-team-visits-mva/

Robotics Rumble: Teens Fight For Tech Glory

Information Week, 04-01-14
www.informationweek.com/it-strategy/robotics-rumble-teens-fight-for-tech-glory/d/d-id/1109333

Experiencing Florida's First STEM Day

By Benn Aaronson, Team Orlando STEM Advocate, 03-05-14
www.teamorlando.org/experiencing-floridas-first-stem-day

Tech Talks: Exploding Bacon Robotics Team!

Orange County Library System YouTube videos 02- 24-2014
<https://www.youtube.com/watch?v=7L6Mo7WsLFA>

FIRST REGIONALS: Flying Frisbees and

Hanging Bots -- with a smile!

Robot Magazine, November, December 2013

**We #MakItLoud in
Print, Video, and Online**

FOSTERING A CULTURE OF INNOVATION, SELF-DISRUPTION, CREATIVITY

MHI's Executive Summit to Feature FIRST® Robotics Competition Team and Ways to Introduce STEM Students to Supply Chain Careers

BY VICHE THOMAS, MHI CAREER & TECHNICAL EDUCATION PROGRAM COORDINATOR

As part of MHI's Career & Technical Education (CTE) program and our focus on developing the workforce of the future, we continuously look for opportunities to build awareness of the varied careers within supply chains and material handling among students of all ages.

And by all ages, we don't limit ourselves to post-secondary students; instead, we've expanded our focus to students as young as kindergarten and elementary school. Because it's never too early to engage children in the future of business and industry via today's science, technology, engineering and math (STEM) programs.

That's why, at MHI's annual Executive Summit—held Sunday,

October 14 at JW Marriott Grande Lakes in Orlando, FL—we'll be featuring Don Bossi, president of non-profit FIRST®. The organization actively engages children from kindergarten through high school, helping them build upon their STEM knowledge with mentor-based research and team-based robotics competitions. It also offers participants the opportunity to apply for more than \$80 million in college scholarships.

During his presentation, Bossi will detail how FIRST fosters the culture of innovation, self-disruption and creativity that will be needed in the next-generation workforce.

"As technology changes continuously, the workforce of the future is going to need to be able to draw upon the types of skills that enable them to be flexible, adaptable, life-long learners," he says. "Not only does their experience on FIRST robotics teams make them technically proficient, but they also learn to collaborate, communicate and work with others to solve problems."

Bossi describes FIRST as a public-private partnership, and notes the critical importance of industry participation in order to maximize the type of impact programs like his have on students' academic interests and career goals.

"Typically, teachers at the kindergarten through 12th grade level have little exposure to industry themselves, so they aren't necessarily aware of the expectations companies might have for young people entering the workforce," he continues. "By pulling in professional mentors from industry to work alongside the students and their teachers with our *FIRST* teams, it gives companies an opportunity to build relationships with educators and kids around a common objective."



Immediately after Bossi's presentation, MHI Executive Summit participants will get a chance to see a *FIRST* Robotics

Competition team in action. Students and mentors from the Orlando-area's 4-H Exploding Bacon Robotics Team 1902 will be on hand to explain and demonstrate some of their recent robotics projects.

Exploding Bacon's current team lead mentor Elise Cronin-Hurley first began volunteering with *FIRST* when her son joined the team in 2011 as a sophomore in high school. As volunteers and mentors came and went, she eventually took over the lead role of organizing and coordinating the group—although she denies having any engineering or mechanical expertise.

"When my son joined, the team lead parent casually asked me what I did for



a living. When I said web and graphic design, she promptly noted that the team needed a website mentor," she laughs. "Even after my son graduated from high school, I enjoyed the program so much I've stayed on; the kids and their enthusiasm are addictive."

Cronin-Hurley says that she's a perfect example of the fact that *FIRST* mentors don't have to have engineering or mechanical backgrounds, although many do. "Given our location in Orlando, we've had mentors from the Disney and Universal theme parks, EA Sports, Siemens, as well as from Lockheed Martin, our biggest sponsor. Other teams in our region are sponsored by NASA, and of course by other

companies large and small as well," she adds.

Established in 2006, many of the Exploding Bacon team's alumni have gone on to pursue post-secondary STEM degrees and STEM-related careers, including positions at Microsoft, Amazon and Apple. Many remain in touch with the team and continue to volunteer with the *FIRST* program in some capacity. In fact, Cronin-Hurley's son—now a mechanical engineering graduate from the University of Central Florida—is also an Exploding Bacon team mentor and technical engineering lead.

"Our team is currently mentored by several alumni of *FIRST*. Nearly all are college students with years and years of experience building robots for *FIRST* competitions," she says. "Their participation gives the high schoolers the perspective that they can translate their interests and skills into a college degree. Likewise, the relationships they build with professional mentors show them a career path that they can see themselves taking."

Seeing how the subjects they study in school translate into jobs and projects in the real world is an important benefit of participating in *FIRST*, say high school sophomore Nicholas Sardinia and high school senior Ruhi Lankalapalli. The pair serve as Exploding Bacon's copresidents for the 2018-2019 school year.

Lankalapalli, who started her *FIRST* tenure in an elementary level *FIRST* LEGO® League team, notes





MHI
Career & Technical Education

For more information about how your company can support a FIRST robotics team in your area, visit firstinspires.org.

that although her high school offers STEM classes—such as calculus and physics—taking tests doesn't equate to applying textbook learning to real-life applications.

"With Exploding Bacon, I go right after school to robotics and use exactly what I learned that day in school when, for example, I'm determining how does this circuit board work, or why I should write a program this way versus another way," she explains.

Sardinia agrees: "Taking physics courses in school doesn't give you a hands-on approach the way FIRST does. Since FIRST's focus is so heavily on engineering, technology and automation—all jobs that are critical to supply chains and manufacturing—a lot of the skills we learn in FIRST are going to be applicable to any job in those fields. So FIRST really helps companies by getting students interested in robotics."

Both Lankalapalli and Sardinia firmly believe that the FIRST program

creates a pipeline for industries like supply chain. They're eager to show MHI Executive Summit attendees what students at their level are capable of by demonstrating some of the recent Exploding Bacon robots. Further, they're keen to hear more about opportunities to transfer their skills to jobs within the industry from the people who are a part of it. And, both are hoping to recruit more professional mentors and corporate sponsors to engage with FIRST robotics teams nationwide.

"All of the mentors are really integral and impactful," Sardinia explains. "Whether they're involved for a day or for years, it makes a difference. That's because the mentors do most of the teaching, as 90% of the students just starting out on a team don't know how to take their classroom learning and apply it to the project."

Additionally, the mentors often help FIRST students find internships, frequently within the companies that

sponsor teams or via their own professional network, says Lankalapalli. "Beyond mentoring, these professionals can give students insight into their industry or lead company tours that help kids connect to what the businesses actually do," she adds. "That ultimately makes the companies more marketable to their future workforce."

Cronin-Hurley agrees, noting that mentors get out what they put into their commitment, and that the key to success is a willingness to develop relationships regardless of their available spare time.

"However, the way FIRST Robotics Competition is set up, the most time intensive part for our technical and robotics mentors is the six-week build season in January and February, extending through the competition phase that ends in April," she explains. "Some teams, like ours, have year-round activities including a community service aspect with a focus on encouraging and inspiring others to get excited about STEM. Our outreach centers on underserved communities, such as children with limited resources and empowering girls to pursue their STEM aspirations."

In addition to volunteer time, FIRST robotics teams need money to



fund their activities. Exploding Bacon, for example, has an annual budget of \$60,000 and spends nearly \$30,000 per year designing, engineering, manufacturing, building and programming a unique robot, then entering it in *FIRST* Robotics Competition events where it performs challenging tasks against a field of other teams.

Further, because Exploding Bacon is not affiliated with a particular school, the team must rent space (\$20,000 annually) to store their equipment and

machinery—for which they either raise funds to purchase or acquire through in-kind sponsorship donations. (At the top of the team's current wish list? A 3x3 X-Carve prototyping machine, a wood laser cutter and a Markforged 3D printer, says Cronin-Hurley.)

Not everyone who volunteers with *FIRST* has to serve as a mentor or team lead, by the way. There are numerous opportunities to help out at local, regional and national events, performing tasks ranging from crowd control to judging.

MHI's own Pat Davison, director of standards, and his wife have been involved as *FIRST* Robotics Competition judges for the past decade. The two started out in Michigan, with Davison taking on increasing levels of responsibility until reaching the rank of Senior Judge Advisor—a position that includes recruiting and training judges for state-wide and championship events. Upon their relocation to Charlotte, Davison assumed the same role for North Carolina.

Although his current commitment has him involved for roughly six months out of the year, Davison notes that not every judge has the same time obligation. Additionally, he stresses that it's not necessary to have an engineering background to serve as a judge.

"There are approximately 15 different judged awards given out at each competition, and they fall into three broad categories: machine attributes, team attributes and cultural awards," he explains. "There are five separate machine attribute awards that look at aspects such as quality, innovation in overall design, innovation in controls and so on; generally we put the hardcore engineering volunteers into those types of judging roles."

The team attribute awards are based on aspects such as what *FIRST* has trademarked as *Gracious Professionalism*, team spirit and entrepreneurship (which specifically requires the team to submit a business plan).

"These tend to be the awards we assign the non-engineers to judge,

EXPERIENCED GUIDE.

WITH OVER 12,000 UNITS INSTALLED AND 13 UNIQUE DIMENSIONING PRODUCTS, **EXPERIENCE IS OUR GUIDE.**

In 1987, we had an idea. Over the past 30 years, that idea has grown into an industry. We have seen many dimensioning companies come and go over the years, but we have remained. We listen to our customers, learn by working in their environments and innovate as their needs change. Our software, technology and staff are all developed to make our customers more efficient and more profitable. When we work with our clients, our experience is our guide. Give us a call today to learn more.

800.488.CUBE
info@cubiscan.com

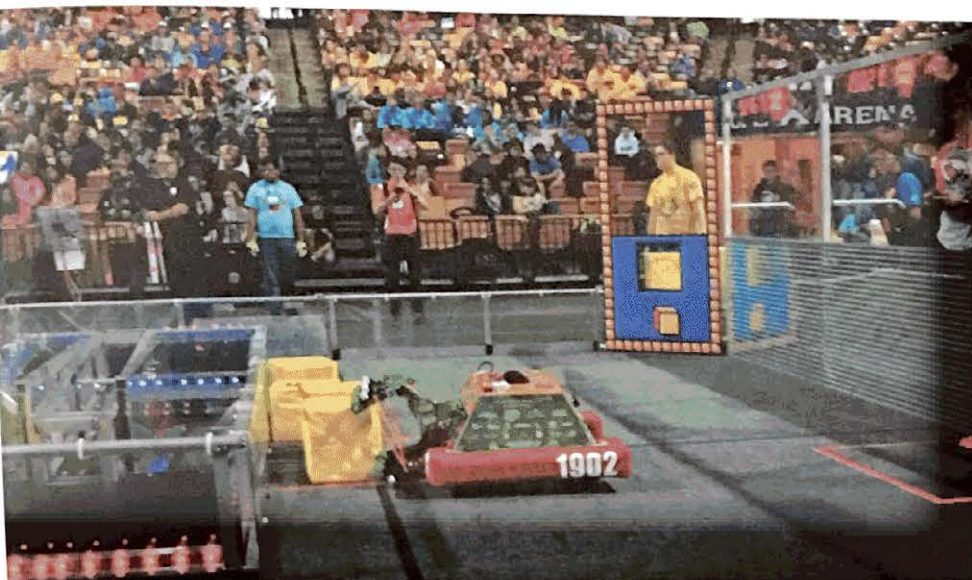


CUBISCAN

 **MHI**
Executive Summit
Connect | Learn | Collaborate

 **MHI**
Annual Conference
Connect | Learn | Collaborate

To learn more about MHI's Annual Conference and Executive Summit event activities, schedule and speakers, visit mhi.org/conference.



although for the entrepreneurship award, we prefer to have people with a finance, accounting or management background evaluating the business plans," Davison continues. "The point is, there's something for everyone."

Additionally, the benefits of *FIRST* participation, notes Bossi, extend far beyond the impacts it has on its students—which are significant. *FIRST*'s

own impact study, conducted by Brandeis University, has found that in comparison to non-*FIRST* students:

- *FIRST* students are significantly more likely to show gains in their interest in STEM and STEM careers.
- 87% take more challenging math or science courses.
- Females in *FIRST* measure a significantly larger impact than males

in STEM interest, activity, careers, identity and knowledge. ("My favorite statistic," says Bossi.)

- Are 2.6 times more likely to enroll in an engineering course in their freshman year of post-secondary education.
- More than 75% of *FIRST* alumni are in a STEM field as a student or professional.

Further, Bossi says that companies who sponsor teams and support their employees' involvement in mentorship roles also gain more than just access to a potential pipeline of future workers.

"Employee engagement goes up because they are proud their employer supports this kind of activity, feel good about what their company stands for, and are more enthusiastic at work. They also get a chance to apply their area of expertise in a new and different way, and to learn from the students. Truly, working with kids is the closest thing you will find to the fountain of youth," he says. "And, it's the only sport where every kid can go pro."

To learn more about the MHI CTE program, visit MHI.org/CTE. ●



Only Auto-ID Solutions from a Single Source Ensure Perfect Data Transparency

The biggest challenge in logistics is not transporting parcels – it is collecting and managing the data they generate. Auto-ID solutions from VITRONIC cover the entire data capturing, visualization and analysis process with perfectly matched hardware and software products that we develop in-house. They are the optimal basis for implementing comprehensive Logistics 4.0 concepts.

VITRONIC – The Auto-ID Solution.

www.vitronic.com

INSIDE THIS ISSUE

UO-Sponsored FIRST Robotics Team Makes World Championships!

Exciting Changes Coming to UO's 401(k) Retirement Plan

Volunteer at a Universe of Caring Day 2016

Team Member Screening of Bridget Jones' Baby

In the Spotlight



UO Sponsored FIRST Robotics Team Makes World Championships

Recently, the Universal Orlando-sponsored 4-H Robotics Team, "Exploding Bacon," qualified for the World Championships of FIRST (For Inspiration and Recognition of Science and Technology). The team qualified for the second year in a row at the event in St. Louis. Exploding Bacon is a group of local high school students, mentored by UO Team Members from six different divisions across the resort. "Seeing the passion that all the kids have for technology has increased my own excitement for tech," says Andrew McGee, Service Desk Supervisor and FIRST Mentor. "I'm honored and humbled to have worked with such a great group of students."

Exploding Bacon took home the coveted "Chairman's Award" in a regional competition, which sent them straight to the 2016 FIRST Robotics World Championships, where teams from 39 countries competed with their robots. Exploding Bacon was tasked with developing a robot that could travel through a medieval-inspired course, completing tasks, and working to capture opposing castles. "It's really great seeing the kids advance to such a high level of competition, especially two years in a row," says Matthew Miller, Manager, Strategic Innovation & Emerging Technologies and FIRST Mentor. "I'm really proud that our mentors can help the students achieve their competition goals."

Exploding Bacon excels in more than just robotics - the team welcomes students with a variety of interests and skill sets. Members can contribute with video production and animation, web and social media, writing, marketing, and community outreach. "It's a great opportunity to reinforce and build excitement for technical skills ranging from mechanical engineering to software development to kids at such an early age," says Adam Green, Technical Specialist, Programmer Analyst and FIRST Mentor. "Add in the marketing and life skills and you have a great program to build up a whole new generation."

Interested in becoming a mentor?

Mentors are a key ingredient to the success of a FIRST Robotics team, and provide technical and non-technical expertise, encouragement, inspiration, and guidance to students. Visit ExplodingBacon.com for more information on the team, and contact Matthew Miller of Parks Technology at Matthew.Miller@universalorlando.com for mentorship opportunities.

REMEMBER: Sign Language Services Are Available for Guests Who Are Deaf or Hard-of-Hearing

Universal Orlando Resort is committed to providing a safe and enjoyable experience for all our guests. To ensure that all guests can enjoy the resort, we offer sign language services for guests who are deaf or hard of hearing. These services are available at all Universal Orlando Resort locations, including the theme parks, water parks, and on-site hotels. Sign language interpreters are available for guests who need them for tours, shows, and other activities. To request a sign language interpreter, please contact the Universal Orlando Resort Guest Services team at 1-800-368-5272 or visit universalorlando.com. We want to make sure every guest has a great experience at Universal Orlando Resort.

Universal Orlando Resort is committed to providing a safe and enjoyable experience for all our guests. To ensure that all guests can enjoy the resort, we offer sign language services for guests who are deaf or hard of hearing. These services are available at all Universal Orlando Resort locations, including the theme parks, water parks, and on-site hotels. Sign language interpreters are available for guests who need them for tours, shows, and other activities. To request a sign language interpreter, please contact the Universal Orlando Resort Guest Services team at 1-800-368-5272 or visit universalorlando.com. We want to make sure every guest has a great experience at Universal Orlando Resort.

UPDATES

Thank You for Making the 2016 Fall Survey



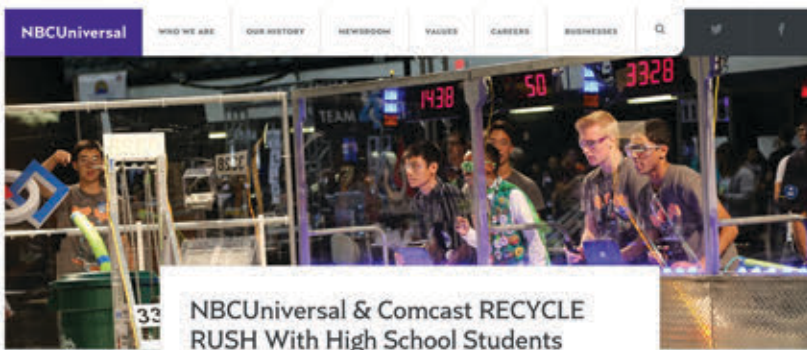
Thank You for Participating in the Universal Orlando Summer Shutdown

We want to thank you for participating in the Universal Orlando Summer Shutdown. We hope you enjoyed the special events and activities we had planned for you. We will be back in full swing in September, and we look forward to seeing you again. Thank you for making the summer shutdown a success.



Get a "Close Up" look at what's happening throughout the resort with Universal Orlando's official blog at blog.universalorlando.com/

3



NBCUniversal & Comcast RECYCLE RUSH With High School Students

April 20, 2015 by Kristina Gillingham, Director, Solutions Delivery, NBCUniversal Technology



For the eighth consecutive year – and on Pi Day – NBCUniversal and Comcast are proud to announce an effort focused on inspiring young people to become engineers and scientists. NBCUniversal and Comcast employees across the U.S. are participating in the FIRST Robotics regional finals in New York, Orlando, and Los Angeles. NBCUniversal and Comcast mentors are helping the teenagers engineer solutions to the 2015 challenge theme in January.

The "RECYCLE RUSH" challenge called for the design of a robot that could perform a series of tasks before competing on the field, gaining points by stacking blocks and moving on to the next rounds and

Team Exploding Bacon from Orlando received regional recognition and qualified for the championship event in St. Louis, Missouri this weekend, April 23rd-25th. Since January, a group of NBCUniversal employees led by Matthew Miller has mentored the team and worked with their teachers, meeting with them in the evenings and on weekends.

"It is such an honor to work with the Exploding Bacon team," said Matthew Miller, Asst. Program Manager, Strategic Innovation and Emerging Technology, Universal Parks and Orlando FIRST mentor. "They continue to impress us with their motivation and dedication to problem solving and engineering solutions."

The Miami L.I.F.E. and Seattle Chill Out... Teams at events.

The Doublet Robotics team represented Doublet and competing at the 11th Annual FIRST Robotics New York City Regional. Alex Holmstrom served as team captain of 8th to 12th grades.

"We couldn't be more proud that Doublet placed 4th for the overall competition," said Michelle Strain, Doublet New York City FIRST mentor. "Our team was amazing!"

There were 66 teams competing from the New York City area, and one team from England.

There were also 66 teams from the Los Angeles area competing at the 11th Annual FIRST Robotics Los Angeles Regional. They made it to semi-finals and ran the Beach Regional. "We were so proud," said Fati Bahmanpour, Senior Director of NBCUniversal and Los Angeles FIRST Robotics mentor. "This year is a turning point for them!"

In addition to building robots, NBCUniversal and Comcast also celebrated the first 10 digits of pi on 314 countdowns marking the special moment.

Special thanks to my fellow team captains and to all Comcast FIRST Robotics sponsorship such as a second

Science, Technology, Engineering and Math (STEM) disciplines are among the most critical for success in a 21st century workforce; these disciplines are digital, networked, rapidly changing, and competition for talent is high.

NBCUniversal and Comcast are dedicated to educating viewers and consumers around key issues, including STEM-related programming. Most recently, NBCUniversal and Comcast celebrated Pi Day under the "Pi is Universal" umbrella with a full slate of technology-themed content, social media activations and consumer events.



Team Exploding Bacon from Orlando received regional recognition and qualified for the championship event in St. Louis, Missouri this weekend, April 23rd-25th. Students participated on the code, build, drive and social media teams. Since January, a group of NBCUniversal employees led by Matthew Miller has mentored the team and worked with their teachers, meeting with them in the evenings and on weekends.

"It is such an honor to work with the Exploding Bacon team," said Matthew Miller, Asst. Program Manager, Strategic Innovation and Emerging Technology, Universal Parks and Orlando FIRST mentor. "They continue to impress us with their motivation and dedication to problem solving and engineering solutions."



"It is such an honor to work with the Exploding Bacon team. They continue to impress us with their motivation and dedication to problem solving and engineering solutions." Matthew Miller

Local Robotics Team Wins Prestigious Award On The Road



Our robotics club, 4H Exploding Bacon Robotics, traveled to the inaugural FIRST Robotics Competition, The Georgia Southern Classic Regional, in Perry, Georgia, this past weekend and, after three days of tough competition, were awarded the Regional Chairman's Award, the most prestigious award granted at this level.

The award, given to a team that best demonstrates the FIRST ideal of changing our culture into one in which science, technology, engineering, and math are celebrated alongside athletic and artistic achievements, qualifies Exploding Bacon to participate in the FIRST World Championship event held in St. Louis on April 22-25. At the World Championship the team of high school aged students and their mentors will compete against 600 other elite robotics teams from around the world.

This marks the third time Exploding Bacon has won the Regional Chairman's Award in their ten year history. The first was awarded in 2010 at the Orlando Regional, and the second at the South Florida Regional in 2013.

The team will get another chance to hone their skills before the Championships at the Orlando Regional, held at the CFE Arena on UCF's campus on March 12th, 13th, and 14th. This all day event will be free and open to the public.

For information visit the website: www.explodingbacon.com

FIRST team awarded at regionals

By Roger Ballas
Apoka Chief Staff

Local robotics club, 4H Exploding Bacon Robotics, traveled to the inaugural FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition, The Georgia Southern Classic Regional, in Perry, Ga., this past weekend and, after three days of tough competition, were awarded the Regional Chairman's Award, the most prestigious award granted at this level.

The award, given to a team that best demonstrates the FIRST ideal of changing our culture into one in which science, technology, engineering, and math are celebrated alongside athletic and artistic achievements, qualifies Exploding Bacon to participate in the FIRST World Championship event held in St. Louis on April 22-25.

At the World Championship, the team of high school aged students and

their mentors will compete against 600 other elite robotics teams from around the world.

This marks the third time Exploding Bacon has won the Regional Chairman's Award in their 10-year history. The first was awarded in 2010 at the Orlando Regional, and the second at the South Florida Regional in 2013.

The team will get another chance to hone their skills before the Championships at the Orlando Regional, held at the CFE Arena on UCF's campus on March 12-14. This all-day event will be free and open to the public.

Exploding Bacon Robotics is an Orange County 4H club that helps students explore STEM by combining the principles of 4H and the tenets of FIRST's Gracious Professionalism. Because they are a 4H team, they are able to draw students from all over the state of Florida, drawing from four counties, and 12 different schools plus homeschool-

ers. This gives the student without a FIRST team at their school or homeschoolers an opportunity to participate in FIRST. In addition to competitions, Exploding Bacon demonstrates their robots at various events, including the Orlando Maker Faire, the Orlando Science Center's Otronicon, and Orange County Public Library's Dorothy Lumley Melrose Center. In total, Exploding Bacon has participated in almost 40 events in the Central Florida area over the past year alone.

For more information about 4H Exploding Bacon Robotics, visit www.explodingbacon.com or contact explodingbacon.team1902@gmail.com.

FIRST is a nonprofit organization that promotes STEM (Science, Technology, Engineering and Math) to 6- to 18-year-olds by engaging them in exciting robotics competitions.

These competitions are designed to challenge

students and inspire them to learn more about science and technology. The program also prepares them to be future leaders in STEM industries and businesses around the world.

For more information about FIRST, visit www.usfirst.org.

news

5

Robotics club builds for successful year



WINDING GEARS Club members Stephen McCreight and Jared True begin building their robot. Bots are constructed based on the FTC game, "Cascade Effect," which requires machines to place whiffle balls in moving targets.

Daniella Parcell

News Editor

A screaming crowd, a fan dressed as a horse and an arena of chanting spectators stared downward, where, instead of two men wrestling each other to the ground, two alliances of robots stood, juggling whiffle balls and battling their way through the final seconds of their game. This characterizes the typical Saturday for members of the school's robotics teams.

"The competitions are really energetic," sophomore Matthew Mason said. "There's a lot of screaming."

After a kick-off event on Saturday, Sept. 6, the robotics club officially began brainstorming and building for the upcoming season. The teams, along with thousands of other clubs across the globe, operate under For Inspiration and Recognition of Science and Technology (FIRST), a worldwide organization that hosts robotics competitions for children and teenagers in order to inspire the next generation of scientists, engineers and mathematicians. The

goal of FIRST, according to senior Sarah Parker, is to inspire the world to appreciate Science, Technology, Engineering and Math subjects, and to inspire respect for people in them.

In early September, FIRST Tech Challenge, the league which the teams compete in, defined a "game" for the year, to be played by every FTC team at every competition. Construction plans are generated according to this game, and robots can be updated, altered and improved throughout the year.

"It's like an evolving animal. You don't just build it and it's done," senior Ibrahim Alinur said. "It just keeps getting built."

This year's game is titled "Cascade Effect," and involves an arena full of not only moving robots, but roaming tubes as well. Bots score by placing whiffle balls into the tubes, and more points are awarded for balls placed into higher tubes.

The physical competition, however, only accounts for 50 percent of a team's score. An engineering notebook and team video encompasses the other half, and both account for 25 percent each.

The mission of the outreach program is to help the community and teach average people about STEM and FIRST. Though this factors into the team's score, it also yields unique opportunities for members, especially Alinur, who delivered a speech at the Kennedy Space Center last year.

"To be able to stand where other astronauts have stood and give a big presentation in front of 50-60 people was really awesome," Alinur said. "Only through robotics was I able to have that opportunity."

As the year moves on, the teams hope to revisit the state competition, which they will host in 11 January 2015. However, while members dream of high scores and winning placements, robotics serves as more than just a series of competitions.

"You get the opportunity to have the engineering experience, you can't have that anywhere else," Alinur said. "You meet a community of people that are also involved in engineering, that's something you can't get on a football team."



Home / Extras / UO Homepage

00

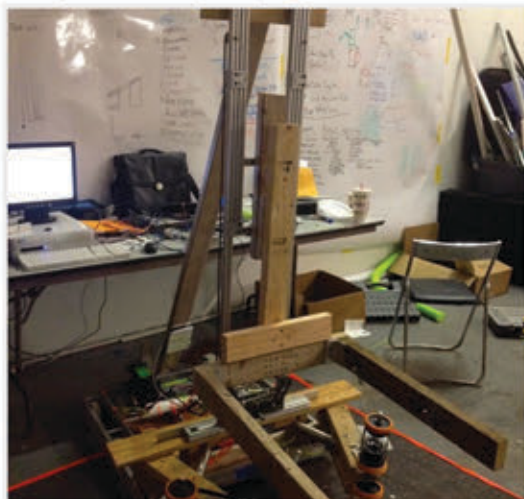
UNIVERSAL ORLANDO MENTORS FIRST ROBOTICS TEAM

Matthew Miller | March 14, 2015

Share this post: [f](#) [t](#) [p](#) [e](#) [s](#)

Happy Pi Day! As part of the NBC Universal family, we're thrilled here at Universal Orlando Resort to bring you a "Pi Is Universal" story from a unique warehouse down the street.

Power tools are buzzing, computer boards are clicking, and future technologists (who currently look oddly like high school students) are rushing all over making... something. What might sound like a scene from a mad scientist film is actually the best way to describe an evening with Exploding Bacon.



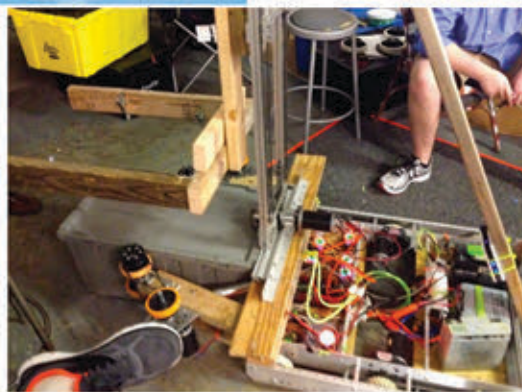
Exploding Bacon FIRST Robotics Competition Prototype

Comprised of students from 12 schools across four Central Florida counties, Exploding Bacon is 4-H club that loves robots. And it's here in their warehouse-turned-lab that they work tirelessly—almost every night of the week—to design, build and program a robot in the hopes of winning the FIRST Robotics Competition.

AKA: Just another day in the office for Exploding Bacon.

FIRST stands for "For Inspiration and Recognition of Science and Technology", and it's aimed at helping high school students get excited about pursuing a career in technology. The program kicks off each year in January and, once entries are finalized, provides students with a specific challenge that must be solved in just six short weeks.

This year's is "Recycle Rush" and requires students to design and build a robot that can stack recycle bins and sort recycled materials as quickly as possible.



Comcast and NBCUniversal understand the importance of getting kids excited about technology—in fact, the growth and expansion of our organization is vitally dependent on it. And since Universal Orlando Resort is known for having some of the most advanced technology in all of Comcast, our CIO jumped at the opportunity to help out when asked by NBCUniversal to prepare a mentor team.

This year, I had the pleasure of leading a team of mentors drawn from different divisions within Universal Orlando including: Parks Technology, Entertainment, Universal Creative, Finance and Operations. We were able to assist the teams with sponsorship, technical assistance, planning and competition prep.

It was great for our mentors to spend time discussing their jobs and experiences at Universal Orlando with the students—especially focusing on the importance of STEM (Science, Technology, Engineering and Math) within these roles.

But back to the warehouse with the robots.

Exploding Bacon sizzled with creativity and technical know-how all season long getting ready for the big show, turning the prototypes you see here into a mean, lean, recycling machine. Along with participating in the competition season, they also do community outreaches throughout the year where they showcase robots and help younger students get excited about technology.



Exploding Bacon FIRST Robotics Competition Prototype

The build phase has ended, and they're now in the final competition today, March 3/14—aka Pi Day—at the Orlando FRC Regional Competition at UCF. We're excited to join the competition and watch as high-school students from all over the state compete against each other in the name of science and math.

While you never know which team will place first until competition day, it's truly amazing to see how hard these students have worked and even more amazing to see how excited they are about technology. Giving up most nights and weekends, the students have given this build everything they've got.

If Exploding Bacon is a good indicator of tomorrow's upcoming engineers and technology gurus, the future definitely looks bright.

For more about the competition, [click here](#). And happy Pi Day!

Page: Technology and Innovation

Share this post: [f](#) [t](#) [p](#) [e](#) [s](#)

"If Exploding Bacon is a good indicator of tomorrow's upcoming engineers and technology gurus, the future definitely looks bright." Matthew Miller

[Home](#) > [Blog](#) >

2015 Workplace in Motion Summit
April 16, 2015: Toronto
Brought to you by
Queen's University IRC

[News](#)
[InFocus](#)
[Forum](#)
[TV](#)
[Resources](#)
[Legal](#)
[Business Review](#)
[Jobs](#)
[Subscribe](#)

STEM Careers, Soft Skills, and Exploding Bacon

by HRM | Jul 17, 2014

REACH OVER 80,000 HR PROFESSIONALS TODAY!

Careers in STEM fields (Science, Technology, Engineering, and Math) are becoming increasingly important as technology impacts the workplace and the world we live in. Tom Friedman (NY Times Columnist and author) and many other thought leaders talk about how technology has changed in the past 10 years, and expect an even more rapid pace of technology change in the future. Companies, organizations, and people that don't respond to changes in technology may run the risk of becoming outdated and obsolete.

STEM careers, technology, and the impact of education were addressed at the *World Future Society's* 2014 conference in Orlando, FL. At the welcome reception, we met with an impressive group of 13 to 18 year-old students who build and program robots for competition with their 4-H FIRST Robotics Competition team.

This team, named "Exploding Bacon," operates similarly to a small business with a variety of team roles, and focuses on several core skills:

- Robot-building (engineering, technology, etc.)
- Teamwork (project management, drawing on individual strengths, etc.)
- Professionalism (elevator speeches, marketing, soft vs. hard deadlines, etc.)

As HR professionals, it was interesting for us to see how these students were being developed for the future workforce, by being trained in hard skills and "soft skills" (or interpersonal skills). This wasn't about robot-building alone! It was apparent that these students are gaining a lot of varied tools and training from this educational experience. They were very well spoken and demonstrated a high level of professionalism, especially for their age. Ultimately, 90-92% of Exploding Bacon team members go into STEM careers. But the things learned through Exploding Bacon are valuable, whether used later in STEM or other careers: the students are learning to have meaningful interactions in their workplace. They are learning how to navigate the increasingly hyper-connected world around them by incorporating concrete skills and use of technology with teamwork and communication.

This method of education seems to be effective in developing skills and knowledge in these students. Learning in a fun environment enables them to grasp the skills and knowledge that will help them as they prepare to enter the workforce. This is a great model for us to consider in the rapidly-changing world around us: learn specific skills, work together, adapt to changing technologies, and of course, have fun!

Connect with Ben on [LinkedIn](#) and Twitter: [@ben_patient](#)
Connect with Kelley on [LinkedIn](#) and Twitter: [@KelleyPatient](#)

LATEST HR JOBS

- Human Resource Manager
- HR Manager
- Talent Acquisition Specialist

MOST DISCUSSED

Lighter Side: most outrageous resignations
Most outrageous letters are a cut-and-paste affair with to ... [READ MORE](#)
• Funny article. Remin ...

Why this organization switched to a four-day work week...and back again
Alternatives to the Monday-Friday grind are rising in popularity ... [READ MORE](#)
• The company I work f ...

Breaking: Supreme Court releases decision on Hobby Lobby case
Hears you, the Supreme Court released a decision to bring th ... [READ MORE](#)
• There is nothing wr ...
• Hobby Lobby claimed ...

HRM America TV

The world is evolving faster everyday - Is your company keep ... [PLAY ▶](#)

[Download](#) [Sign up](#) [Enter a contest](#) [Submit](#)

CONGRATULATIONS TO THE WINNERS AND FINALISTS!

HRM Magazine and HRM Online are proud to present the winners of the most prestigious awards in Canadian HR!

[Click here to see the list of winners!](#)

MOST READ

- **Lighter Side: You do what? Weirdest jobs you've never heard of...**
You won't believe these weird - and not so wonderf ...
- **'Speed interviews': save time, showcase your company**
Hiring can be a slow process - but it doesn't have ...
- **Encouraging the elusive work-life balance - are we all talk?**
Employers only offer lip-service says industry exp ...

LATEST NEWS

- **War words in the workplace: is it time to kill-off violent vocab?**
Think military-esque eloquence motivates your empl ... [READ MORE](#)
- **You're late! - But does it even matter?**
The growing desire for flexibility is pushing old- ... [READ MORE](#)
- **Making your contingency workforce work**
The rising trend of contingent workers offers tale ... [READ MORE](#)
- **Lighter Side: You do what? Weirdest jobs you've never heard of...**
You won't believe these weird - and not so wonderf ... [READ MORE](#)

SIGN UP TO OUR FREE E-NEWSLETTER!

Exploding Bacon does more than build robots. We prepare our students for the future by teaching them skills such as Public Speaking, Teamwork and Marketing, which has earned us recognition in engineering, and non-engineering, industries alike.

WORLD FUTURE 2014: What If


The Annual Conference of the World Future Society
July 11-13, 2014 • Hilton Orlando Bonnet Creek
Orlando, Florida, U.S.A.

Preconference Master Courses July 10-11, 2014

Science Fiction Symposium July 12, 2014

Professional Members Forum July 14, 2014



 Consulting associate professor at Stanford University, and visiting scholar at Stanford Media-X. San Francisco, California, USA.

8:45-10:00 pm.

Welcoming Reception

room: BC Ballroom Salons IV-VI

A reception with refreshments will immediately follow the opening plenary session. Renew old friendships and socialize with your futurist colleagues.

Futurists: BetaLaunch

room: BC Ballroom Salon IV

Futurists: BetaLaunch, the World Future Society's fourth annual innovation competition, will allow WorldFu-

moving to the top of our combined abilities. This provides a new path to the prosperous future we expected from advanced technology, with new ways for everyone to rise to greatness—rather than a future that is replacing people with technology.

With continuous connections in Shared Planetary Life Spaces, "Active Knowledge" that tells you what you need to know, connected screens across families of devices, embedded security, multiple levels of public/privacy/secrecy, personally directed content, embedded commerce that can immediately deliver the world's best choices, group governances to receive human/social services, and more... Expandiverse Technology provides multiple ways for everyone to move ahead when the world's best resources serve everyone individually.

This different kind of future con-



to get a glimpse art-ups, and inging the future. we're honoring

ology

is new technol-
ed Digital Earth
different way to
e. Today's tech
-shaped society
lle class out of
more people to
lth is moved to
ndiverse Tech
a fully digital
...yone thrive by

tinuously delivers new personalized opportunities as humanity's combined abilities grow. It's designed to radically expand how much we each gain from "advanced technology as a platform" as we interact with all our screens throughout our daily lives.

4-H Exploding Bacon Robotics

Exploding Bacon is a 4-H Club that participates in FIRST robotics. Our team has been thriving and growing since its inception in 2006. At the first meeting that year there was a total of six kids and three adult mentors for an FRC team. By kickoff, which was only the second meeting, the team had grown to ten kids, from four different schools, and roughly six adult mentors. Since then the team has grown to include 5 FLL teams with our FRC team with more than eighty students from twelve schools in four counties, with a plethora of college and professional mentors leading the way.

But, just like FIRST, Exploding Bacon isn't about building robots. This team is all about building people. Our students learn skills that will help them to become better employees and citizens. In addition to what the students learn, they participate in a wide range of community outreach projects from educational robotic demonstration events to helping those in need.

This year, Exploding Bacon built a 120 lb, 5' tall robot to compete in an international competition. The robot will be available to interact with conference attendees.

FRIDAY

**We are pioneering new paths for
FIRST by demonstrating our robot at
new events in our community, such as the
World Future Innovators' Conference.**

EDU BOTS

by Kevin M. Berry

ORLANDO FIRST 2014 REGIONAL COMPETITION

The 2014 Orlando Regional FIRST competition was held at the University of Central Florida on March 12-15, 2014. This is the 15th year for this regional event, and many say it was the best ever. Sixty-two teams participated this year in the Aerial Assist problem. This problem involved launching large balls over a beam, attempting a catch, then trying to shoot them through a scoring hoop. Alternatively, the balls could be shoved into a floor level container.

The CFE Arena provides a great venue for this type of event. Pits are in close proximity, the audio/visual technology is first rate, and there is an entire village of shops and restaurants to occupy the hundreds of participants between pit and arena frenzies.

In the team standings, first place was Team 233, a four-school combo from Brevard County, Florida's Rockledge High School, Cocoa Beach High School, Space Coast Junior/Senior High School and Viera High School. Sponsors were NASA's Kennedy Space Center, the School Board of Brevard County, and GovConnection, Inc.

Standing in second place, in a near tie, went to another NASA-sponsored team, 1592, also from Brevard County. Two schools, Cocoa High School and Holy Trinity Episcopal Academy, were sponsored by the DOD's National Defense Education Program, NASA's Launch Services Program, Qinetiq North America, a.i. Solutions, Brevard Public Schools and JRC Integrated Systems, Inc.

Third place went to a visiting team from Cinco Ranch High School in



Three bots, representing the hard labors of six schools, line up for the opening bell. Photo Tom Hill.



FIRST has a strong safety culture. The Safety Nuts of Siege Robotics were a visible reminder in the pits. Photo by Kevin Berry.



Winning begins in the practice area. Photo by Kevin Berry.



Team Exploding Bacon's machine puts the move on a competitor. Photo by Tom Hill.

Katy, Texas. Sponsors were BP America, Oceaneering, ConocoPhillips and the Texas Workforce Commission.

Photos, videos, awards, and detailed results can be found at floridafirstregional.com. ©

Links
Orlando FIRST Robotics,
www.floridafirstregional.com

For more information, please see our source guide on page 80.



This year's problem awards high points for a successful game of "pitch and catch." Photo by Tom Hill.



The Red team launches a shot over the beam. Photo by Tom Hill.

And, attracted attention again
in 2014 competition.

EDU BOTS

GO BANANAS

Colonial High School (Go Bananas) was one of the more student-centered teams that I talked to. They've had fewer mentors this year, which allows the students to take a more active role in designing and building their robot. What this gave them was a tank-driven robot with an aim-able Frisbee launcher. Their method for climbing the pyramid was the simplest I observed, but also one of the more creative. In a strategic move, they chose to abandon the points of the upper two pyramid levels in order to ensure that they get some points. Their method involved two hooks made out of wood. The hooks would catch on the bottom level, suspending the robots in mid-air.

EXPLODING BACON

One of the most impressive looking robots came from team Exploding Bacon, of Winter Park, Florida. This team is comprised of members of a local 4H program, so they are able to draw from several area high schools. When I spoke to them, they were testing the intake system—the way the robot collects and reloads Frisbees. At the time I spoke to this team, there was too much bending in the piece used to collect, but it was an easy fix as they just added more rigidity. Their robot was one of the fastest, ranging from five to twenty feet per second. Their strategy



Left: Shark Attack team member makes an adjustment on his winning robot. Right: Team Stealth Tiger's machine climbs up the side of the pyramid.

centered on that speed. They can either collect Frisbees from the floor or zoom over to the human load zone. With just a few seconds left, they fly to the pyramid and use pneumatic claws to catch the bottom rung of the pyramid.

CONCLUSION

The winners at this regional were the Brazilian Trail Blazers (Gravataí, Brazil), Team Krunch (Tarpon Springs, Florida), and Shark Attack (Ft. Lauderdale). With an event like this, the best way to gauge the success is through the reactions of the participants. And, the participants at this event could not have been any more enthused. From the downtime they spent trading buttons with their team logos to chanting and cheering for their teams in the practice round and even working on their robots, everybody who participated had permanent smiles on their faces. And that's what should be taken from this competition. ☺

Links
AndyMark, Inc., www.andymark.com, (765) 868-4779
FIRST, www.usfirst.org, (603) 666-3906

For more information, please see our source guide on page 81.

Spark

imagination in every child

Spark is an initiative to send **Science Kits** accompanied by a helpful instruction booklet to schools outside of the country with few resources. With this new experience, we hope to **inspire** creative problem solving in children throughout the world.

Visit sparkimagination.org for more information.



Looking for ideas for your Summer Camp?

Summer camps are great team fundraisers and a great team bonding experience.

If you are looking for ideas to help plan a successful summer camp experience, **visit explodingbacon.com.**



Are you a FIRST team?

Then you know the challenge to complete the standard 4-H project books while following the tenets of FIRST.

If you'd like more information about our 4-H Project Books for FIRST Teams, **visit explodingbacon.com for more info.**



Spark SCIENCE KITS



Partnering with
Gra-V Robotics Team 5816,
provided the opportunity to
3-D print more than 50 cars
and screws for the kits.



Spark kits provide hands-on science experiments to
children in areas with few resources across the globe.

133 Science
Kits

43 Countries

16 Hands-on Science
Experiments

37 *FIRST* teams

65 Spark Kits taken
back home by

6 Languages translated
by 4 *FIRST* teams

Based on our Exploding Science program, the goal of Spark is to inspire children in areas with few educational resources by sending boxes full of hands-on scientific experiments. The experiments are accompanied by an instruction booklet full of directions and information about the experiments for the facilitator of the group.

*Spark is laying the groundwork for the future
problem-solvers of the world.*

sparkimagination.org

The Evolution of Our STEM Outreach Programs

Exploding science was created with the goal of introducing the world's next generation of scientists and engineers to the scientific principles in the world around them, fostering their growth into innovative thinkers and industry leaders.

Exploding Science



Developed to engage local students with basic concepts of science.

Summer Camps



Science Experiments, Robotics Competitions, and team building games.

Resource Books



38 activities, experiments and robot competition instructions compiled into one book to help FIRST teams fundraise and share their passion for STEM.

Spark



A kit full of science experiments and instructions to help children around the world learn to solve problems in their communities.

Exploding Bacon created Exploding Science Resource Books to help other FIRST teams host their own summer camps and fundraisers. We gave 800+ of these books to FIRST teams at World Championships in 2015 and in 2016 and the book (among other resources) is available on our website for all teams to access.

From Exploding Science, we developed Spark. Spark kits are full of science experiments and instructions to help children around the world learn from hands-on science experiments to help them solve problems in their communities.



Spark SCIENCE KITS

HANDS-ON EXPERIMENTS



**DESIGNED TO HELP CHILDREN WITH FEW RESOURCES
BECOME PROBLEM SOLVERS IN THEIR OWN COMMUNITIES.**

Spark Science Kits, were created by *4-H Exploding Bacon, Robotics Team* to inspire children around the world understand scientific principles and become tomorrow's problem solvers.

These shoebox-sized kits contain:

- **16** real world science experiments designed to teach foundational science concepts found in science curriculum
- Reusable materials
- Instruction book, *available in English, Spanish, French, Creole, Greek, and Hebrew.*
- The kits are provided free of charge, while the supply lasts.



Why do we need **YOUR** help?

In order for us to achieve our goal to inspire as many children as possible, we need help from *people like you* -- passionate about helping children!

- Donations are needed to create the kits. Cost of materials is about \$35.00 per kit.
- Shipping costs are prohibitive, if you are going abroad, you may be able to deliver hands-on science to children in need.



133 Kits to 43 Countries
and Counting...



TO REQUEST YOUR KIT OR LEARN MORE

EMAIL OR VISIT US ONLINE FOR MORE INFORMATION

info@explodingbacon.com | sparkimagination.org | explodingbacon.com

Spark SCIENCE KITS *FIRST Impact*



FRC Teams

who took Kits Home

1872 Puerto Rico, Steel
Lions
1937 Israel, Elysium
2576 Chilean Heart, Chile
3478 LamBots, Mexico
4091 DRIFT, Dominican
Republic
5412 Impossible,
Netherlands
5773 Turkey, YAFL
Mechatronics
6304 Team Eagle
6404 Brazil, Brazilian Storm
6409 Odrinias, Turkey
6473 Orlando, FL Rockstar
Robotics

- for Boys & Girls Club

FIRST GLOBAL

(Team Took Kits Home)

Bahamas (2)
Bangladesh (2)
Belgium
Bosnia
Bulgaria
Canada
China
Cyprus (6)
Denmark
Ethiopia
Greece
Lesotho
Myanmar
Oceania
- (Adelaide, Australia)
Paraguay
Rwanda
- (3) used with Refugees

Seychelles

Slovenia

St. Lucia

Suriname

Togo

Tunisia

Uganda

UK

Venezuela

4 FIRST Team

Translations

FRC 2283 Panteras, Spanish
FTC 13906 Epiteugma
Revved Up, Greek
FRC 5553 Robo'Lyons,
French
FRC 2212 The Spikes,
Hebrew

Teams from 4 Countries

looking to create massive kit production
projects to transform the STEM education
in their home countries.

Global Outreach

Jumpstart for FIRST Teams!



Spark SCIENCE KITS

Full Country Distribution List

Australia 1
Bahamas 2
Bangladesh 2
Belgium 1
Bosnia 1
Brazil 3
Bulgaria 1
Cambodia 1
Canada 1
Chile 1
China 2
Colombia 4
Cyprus 6
Denmark 1
Dominican Republic 1
Ethiopia 3
Greece 3
Guatemala 1
Guyana 6
Haiti 13
Honduras 1
India 6



Israel 1
Jamaica 1
Lesotho 3
Macedonia 3
Mexico 1
Myanmar 1
Netherlands 1
Nicaragua 2
Paraguay 1
Puerto Rico 3
Rwanda 3
Seychelles 1
Slovenia 1
Saint Lucia 1
Suriname 7
Tonga 2
Tunisia 1
Turkey 6
Uganda 3
United Kingdom 3
United States 22
Venezuela 5

134 KITS to 44 Countries

Spark SCIENCE KITS

In Pictures





#FIRSTLikeAGirl

Encouraging girls around the world with the confidence to pursue their aspirations in STEM

77 Followers from
Countries
49 US States
9 Fortune 500 companies

75+ Videos
25,000 Views
of students, mentors, and
alumni from teams in Israel,
China, United States & Mexico

20
Ambassadors
from 4 Countries

20K+
BUTTONS distributed
by 30+ FIRST teams

one
Million/mo
Impressions of #FIRSTLikeAGirl
on Twitter, Instagram & Facebook

4
social media platforms
PLUS WEBSITE
   

Social Media Movement

In April of 2016, we created a social media movement #FIRSTLikeAGirl, which strives to improve the culture of STEM by sharing the stories of the inspirational women and girls in FIRST.

FIRST has recognized our #FIRSTLikeAGirl movement and plan to leverage the hashtag and amplify the network of supporters at the 2018 FIRST Championship, as a part of their Diversity & Inclusion efforts including a #FIRSTLikeAGirl panel workshop.



For Inspiration and Recognition of Science and Technology

Shelley Henderson, Diversity and Inclusion Manager for FIRST
200 Bedford Street | Manchester, NH 03101
603.666.3906 x711 | shenderson@firstinspires.org

February 16, 2018

4-H Exploding Bacon Robotics, Team 1902
7040 Stapoint Ct, Winter Park, Florida 32792
407.929.6297

*Jen L.
FIRSTLikeAGirl Lead*

*Elise Cronin-Hurley
Mentor Lead*

Team,

On behalf of Diversity & Inclusion at FIRST, we are so grateful for and impressed with the work you have done to advance access to our programs for girls and young women.

As part of the FIRST Championship, we plan to leverage the #FIRSTLikeAGirl hashtag, hopefully amplifying your terrific work and growing your network of supporters. As part of our plans to leverage the hashtag on social media, we also hope to print the hashtag on some promo swag for a Diversity & Inclusion activation we will be hosting during both Championship events.

FIRST is delighted to remain connected to your effort ongoingly in whatever ways are most meaningful to you to collaborate on additional solutions to achieve STEM equity. Please contact me should you have any further questions.

An aside: I am on the merchandise website right now ordering more buttons and other things. I'm fresh out and am happy to keep spreading the word and making it loud.

All the best,

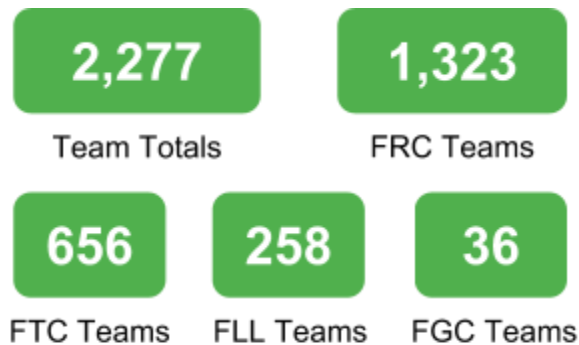
A handwritten signature in black ink that reads "Shelley Henderson". The signature is fluid and cursive, with the first name "Shelley" being more prominent.

Shelley



2,277 *FIRST* teams following from
70+ countries and ALL 50 US states

FIRST Impact



FIRST TEAMS FOLLOWING

20 Teams Serving as Ambassadors:

- FLL 5520 Pretty Smart POWER Girls, The Netherlands
- FTC 7593 NDB TigerBots, CA
- FTC 11985 MissCalculation, KY
- FRC 1111 Power Hawks & FTC 3583, 3796, 5178, MD
- FRC 1902 4-H Exploding Bacon Robotics Team, FL
- FRC 2212 The Spikes, Israel
- FRC 2642 Pitt Pirates, NC
- FRC 2996 Cougars Gone Wired, CO
- FRC 4188 Columbus Space Program, GA
- FRC 4816 Gadget Girls, NC
- FRC 5993 Istech Robotic Society, Turkey
- FRC 6232 Florya Bisons, Turkey
- FRC 6413 Degrees of Freedom, AZ
- FRC 6606 Pink Hawks, Mexico
- FRC 6909 SAKURA Tempesta, Japan
- FRC 7529 Mulan, China

20,000K+

Buttons & Tattoos made and
shared by countless teams!

FIRST LEGO League, *FIRST* Tech Challenge,
FIRST Robotics Competition,
& *FIRST* Global Competition TEAMS!

at local regionals, qualifiers, state championships,
and World Champs and FGC around the world.



FIRST followers from 70+ Countries:

Albania	Germany	Pakistan
Australia	Ghana	Paraguay
Belgium	Greece	Philippines
Brazil	Guatemala	Poland
Brunei	Haiti	Romania
Burundi	Hong Kong	Russia
Cambodia	India	Rwanda
Canada	Iraq	Scotland
Catalonia (FGC Team	Ireland	South Africa
Europe)	Israel	Spain
Chile	Italy	St. Kitts and Nevis
China	Japan	St. Lucia
Chinese Taipei	Kazakhstan	Switzerland
Columbia	Kosovo	Tunisia
Croatia	Lebanon	Taiwan
Cyprus	Libya	Turkey
Czech Republic	Lithuania	Uganda
Denmark	Madagascar	Ukraine
Dominican Republic	Malaysia	United Kingdom
England	Mexico	Uruguay
Ecuador	Montenegro	US
Estonia	Netherlands	Venezuela
France	Nigeria	Zimbabwe
Gabo	Norway	





FIRST

#LikeAGirl

more than

75 Videos



FIRST Robotics Competition

Michelle Long, FIRST Alumni Director
 6845 Astoria RiverBots, Rowan
 2096 RoboActive, May
 5747 Athena, Shir
 5747 Athena, Orit
 13368 Tech Crew, Tania
 4188 Columbus Space Program, Hallie
 2212 The Spikes, Healy (Israel)
 2212 The Spikes, Shahar (Israel)
 2231 OnyxTronix, Maya (Israel)
 5614 Sycamore, Rotem (Israel)
 2556/5816 Radioactive Roaches & Gra-V, Jessie, AM
 5816 Gra-V, Kaitlyn
 2996 Cougars Gone Wired (team)
 461 Westside Boiler Invasion, Daphne
 461 Westside Boiler Invasion, Linnea
 461 Westside Boiler Invasion, Rachel, AM
 5466 Davenport West Robotics, Alyssa
 5606 Red Hurricanes, Yuchan (China)
 4013 Clockwork Mania, Esha
 5283 Torque, Leena
 108 Sigma Cats, Victoria, FIRST Vista & A
 6606 Pink Hawks, Fernanda (Mexico)
 6606 Pink Hawks, Evelin (Mexico)
 6606 Pink Hawks, Samanta (Mexico)
 6606 Pink Hawks, Paula (Mexico)
 6606 Pink Hawks, Dulce (Mexico)
 6606 Pink Hawks, Leslye (Mexico)
 6606 Pink Hawks, Angela (Mexico)
 6606 Pink Hawks, Karel (Mexico)
 6606 Pink Hawks, Jacqueline (Mexico)

6606 Pink Hawks, Pame (Mexico)
 4118 Roaring Riptide, Andrea
 1592 Bionic Tigers, Danielle
 1592 Bionic Tigers, Tiffany AM
 1592 Bionic Tigers, Madison
 1592 Bionic Tigers, Courtney AM
 5125 Hawks On The Horizon, Evelyn
 1557 12 Volt Bolt, Jessie, FIRST Vista A
 79 Krunch, Jonell (Orlando Regional Competition Co-Chair, AM)
 1369 Minotaur, Erin
 1902 Exploding Bacon, Elise M
 1902/5816 Exploding Bacon & Gra-V, Wendy, Orlando Regional Director and M
 494/1902 Martians & Exploding Bacon, Ashley, AM
 1902/4118 Exploding Bacon & Roaring Riptide, Sarah (alum & mentor)
 1902 Exploding Bacon, Jordan
 1902 Exploding Bacon, Ruhi
 1902 Exploding Bacon, Alexis (mentor)
 1902 Exploding Bacon, Jennifer
 1902 Exploding Bacon, Katie

FIRST Tech Challenge

13368 TYWLSA, Tania
 11062 Cookienauts (team)
 5937 Renaissance Robotics, Gwen
 5937 Renaissance Robotics, Rhiannon
 9835 Robochicks Robotics, Madison
 11104 Bearded Pineapples (team)
 8798 Aluminati Industries, Kaitlyn
 9779 PIEaters, Julie
 4962 The Rockettes (team)
 2845 Team Duct Tape, Daniele AM

2845 Team Duct Tape, Marissa AM
 3595 Schrödinger's Hat, Katie
 4345 Aragon Robotics, Riddhi
 4345 Aragon Robotics, Shelby
 4345 Aragon Robotics, Sophia
 11009 McHi Robotics, Robodogs
 15935 DONKIPINK Team

FIRST LEGO League

31980 Aqua Bots (team)
 7407 C.A.K.E. B.A.T.T.E.R.S, Tempy
 18226 EchoTech, Nia
 18226 EchoTech, Kayleigh
 8265 Bacon Builders, Kate
 39633 Toxic Taco Tuesday
 37697 Radioactive Brainstorm, Claudia & Elisabeth

FIRST LEGO League Jr.

3096 Cloverbots, Emily & Alexis
 Joyce Walter, Central FL Partner

Promotional & Impact Videos

2212 The Spikes, Hebrew Promo
 6606 Pink Hawks, Spanish Promo
 COMPARTE TU HISTORIA!
 1902 Exploding Bacon, Boys of Team
 1902 Impact
 FIRST, RGV Texas

A= Alumni | M=Mentor



FIRST

#LikeAGirl Blog Posts

We started our new Blog Campaign in Fall of 2018 to make the program more accessible to those who don't have the resources to share their story through a video. This longer format helps share the details in a story that can truly inspire the next generation of leaders and innovators.



Alum Danielle Boyer

FRC 4384 Benzene Bots

We found Danielle through an article written about her experiences by SOLIDWORKS. She shared her story about starting the organization STEAM connection. Danielle is very passionate about low price, accessible FIRST training supplements. We also had the pleasure to interview her to share her story.



Mentor Gaby Tovar

FRC 6606 PINK HAWKS

Meet Gaby, from Toluca City, located in Mexico State. She is the teacher, Head Coach for the PINK HAWKS, FRC 6606, Game Announcer and MC for FRC events, and field reporter at the 2018 FIRST Global.



Mentor Kanon Nakajima

FRC 6909 SAKURA Tempesta

Meet Kanon, she is the founder and lead of FRC Team 6909 Chiba, Japan, as well as an Ambassador for the LGBTQ+ of FIRST. After participating on a Minnesota FRC Team as a foreign-exchange student, she was so inspired and decided to start her own team back home. We loved hearing her story and continuing to spread the #FIRSTLikeAGirl message.



Women in STEM Impact Survey

#LikeAGirl Quotes

The following is a sample of some of amazing responses received in the Women in STEM Impact Survey conducted by: #FIRSTLikeAGirl (4-H Exploding Bacon Robotics Team 1902) and Amelia Burns, Fall 2018.

Please describe any impact from #FIRSTLikeAGirl that you have witnessed or experienced (impact on you, your team, community, gender dynamics, diversity, role models, social media involvement, etc.)

Seeing others wearing the button, or branding makes me smile, all come together for the same goal, team realized we need more diversity, continue spreading the word through others

My sister decided to join FIRST because of #FIRSTLikeAGirl

#FIRSTLikeAGirl has opened my eyes to the gender Gap in STEM and inspired me to do whatever I can to make sure girls everywhere gain the confidence they need to pursue their dreams.

It has made me prouder to be a girl on a robotics team that's there because she wants to be. I mentor for the FTC AND FLL as well and feel honored to be the only female role model there. I love what I do and I'm so happy to be passing my knowledge on to others.

As a female on a mostly male team, #FIRSTLikeAGirl helps me remember there are plenty of other girls out there just like me wanting to pursue a STEM career.

I've seen girls more open to joining teams through #FIRSTLikeAGirl.

It's encouraging to see the number of people who support the mission.

It's just nice to know that there are female role models and people that will support me if I pursue a STEM career

It helps band together us girls in FIRST.

I enjoy seeing other girls on teams, and it inspires me to keep working

I can remember my six grade year when I first joined robotics(FLL) and at my first regional competition in my coach introduced me to a girl in high school on an FRC girl. I remember thinking was this was amazing to build and compete with the industrial size robots and you knew this was something I wanted to continue! Over the years I continue to compete in FIRST I experienced several obstacles which taught me to be a stronger person and continue to fall my passions. #FIRSTLikeAGirl along the way has been a great inspiration and I have enjoyed their contribution to FIRST!

It's really what made me stay on my team because I was the only girl before two others joined.

I think that it's quite encouraging. Whenever we had school visits, I would show some of the material, and it definitely encouraged the girls to get more involved in whatever activities we were doing, or showing. It showed girls that they could do the exact same thing as the boys, and that it isn't just a "boy thing."

Students really light up when you hand them a #FIRSTLikeAGirl button and tell them that they are a great example and embodiment of what FIRST is all about.

I've enjoyed having stories easily accessible

They show how successful women in STEM are and it just shows how women are pushing forward and making their own accomplishments.

More girls in leadership, more girls interested in stem, stronger bonds and communication between genders

I love the impact that #FIRSTLikeAGirl has had on the FIRST community. Being a girl in STEM is difficult, because no one expects you to. Though, having such a female-driven call for girls in STEM has impacted me and the girls on my team.

It helps to encourage more young girls to get into stem professions and hobbies. We've had an increase of girls on the team.

I wear and carry the buttons and give them to students at FIRST events. It helps the females feel recognized and important. I love when I have makes wearing them to support their teammates!

A connection between the girls in FIRST; we are much more focused on lifting each other up than competing against one another.

We have changed since 2015 I mean last 3 years most of the girls thought that only boys can do robots but now every girl in our team knows that they can do anything whenever, whatever, wherever they want.

#FIRSTLikeAGirl reminds me that I am not alone, despite what it looks like when I look around on my team. Thanks for everything you do!

Although we haven't had many girls on our current/past teams, we do feel like #firstlikeagirl puts forward a very positive message and we are happy to support that effort in any way we can.

Seeing the support inspires me to keep being part of the organization.

When I first discovered FIRSTLikeAGirl I was in Georgia for SuperRegionals and it made me feel welcomed.

My 5 y/o sister has been inspired by #FIRSTLikeAGirl- through me. She saw me win a Dean's List Award and go to FIRST Champs two years in a row, and I've shown her pictures that are posted on the Twitter account and hashtags. At the age of 5, she builds with her blocks and brags about her architectural and engineering skills and says she wants to "build the world" when she gets older. I like to feel like the influence of myself, as her sister, doing big things and showing her other women doing big things has positively impacted her to the point where she may not ever know there was a gap until someone told her.

We have changed since 2015 I mean last 3 years most of the girls thought that only boys can do robots but now every girl in our team knows that they can do anything whenever, whatever, wherever they want.

This seriously helps me engage with the Female STEM community and learn. Gender dynamics is rough waters if you are one of fifty members and the only girl. It helps with diversity and helps me deal with backlash I get for being the only person of color and the only girl.

FIRSTyle
#FIRSTLikeAGirl
has partnered with FIRSTyle to provide easy access to merchandise.
Get your #FIRSTLikeAGirl gear at shopfirststyle.com



#FIRSTLikeAGirl Drawstring Bag
\$14.99



#FIRSTLikeAGirl Hoodie
\$35.00



Official #FIRSTLikeAGirl Shirt (Unisex)
\$21.00

Amy Poehler Smart Girls Article

#FIRSTLikeAGirl Paves a Broad and Welcoming Road for Girls in STEM



The hashtag #FIRSTLikeAGirl has become a Girl Power battle cry within the STEM conversation thanks to the efforts of Jennifer Law, Ruhi Lankalapalli, Jordan Shavell, and their *FIRST* Robotics Competition team “Exploding Bacon.” *FIRST* (For Inspiration and Recognition of Science and Technology) was founded in 1989 to inspire young people's interest and participation in science and technology. *FIRST*'s Championship events bring together more than 30,000 young people from all over the world who are inspired to innovate. Jen, Ruhi, and Jordan, along with the entire Exploding Bacon team, have created a movement within the *FIRST* community to welcome other girls, provide them with a strong supportive community, and encourage them to stay involved with *FIRST* and STEM even after they graduate. Through their videos and social media posts, these Smart Girls are showing girls of all ages that they have relatable and empowering role models.

#FIRSTLikeAGirl got its start when Jen, Ruhi, Jordan and their team were inspired by Always' effort to redefine what it means to do something “Like A Girl”, and wanted to create a similar program for *FIRST*. By telling the stories of how they achieved STEM-related accomplishments #FIRSTLikeAGirl, they discovered the message was inspiring and very relatable. The girls realized they needed to develop a dedicated social media presence for others to share their stories and celebrate the impact girls and women were already having within the organization. Their website is as energetic and inclusive as their mission. For example, visitors can view #FIRSTLikeAGirl testimonial videos, or make and upload their own. This inclusivity, positivity, and empowerment is at the heart of #FIRSTLikeAGirl. “Strong female leaders are celebrated and girls are encouraged to be confident without excluding anyone from the conversation,” explains Ruhi.

Although the campaign is only two years old, its leaders are already

seeing that girls are identifying with and feeling empowered by the program just by using the hashtag on social media. “One of the most amazing parts of the #FIRSTLikeAGirl program is how it has expanded through social media to teams across the world,” said Jen. “We’ve gone from a program run by a small team in central Florida, to a true global movement, with stories and encouragement shared among girls from Mexico to Israel to Japan.”

In addition to driving the #FIRSTLikeAGirl campaign, the team is preparing to compete at the 2018 *FIRST* Championship Houston event with their robot Pigxel and for the Championship Chairman's Award. Ruhi and Jen will be graduating soon and pursuing studies in various engineering disciplines in college. Jordan is in 9th grade with plans to become a paramedic firefighter. Jen, Ruhi, and Jordan are effusive in recognizing the opportunities and impact their *FIRST* mentors and network have provided, while they are also acutely aware of the sizeable gender gap that still remains in STEM. Each has set her sights on staying involved and finding ways to give back as mentors or volunteers. No doubt they will as role models as well.

“It has been so exciting to see the #FIRSTLikeAGirl impact spread throughout the *FIRST* community, and then beyond,” said Jordan. “We can’t wait to see what the future holds.”

Article scheduled to be published by Amy Poehler Smart Girls as of 04/16/18



2018 Women in STEM Panel & Workshop

Friday, April 20, 2018 - 11:00 AM to 1:00 PM |
Houston: GRB - 370 | Diversity & Inclusion
Friday, April 27, 2018 - 11:00 AM to 1:00 PM |
Detroit: Cobo - 260 | Diversity & Inclusion

Presenter: Cassie McIntyre, Director of Corporate Partnerships, *FIRST*

FIRST is excited to present the 2018 Women In STEM Panel and Workshop. **Interactive, engaging, empowering, inspiring, and collaborative** are just a few words to describe this year's newly revamped event. Women enhance the value of science, technology, engineering, and math and they contribute tremendously to STEM fields. Women in STEM have contributed to some of the most important discoveries and technological innovations in STEM. Let's celebrate the accomplishments and the journey of professional women in STEM, while **inspiring and motivating GIRLS to LOVE STEM!** The goal of this workshop is to provide young women the opportunity to interact with women in STEM.

The 2018 Women In STEM Panel and Workshop can be a life changing experience. The workshop is 2 hours and will include a panel Q&A to give participants an opportunity to ask questions of women in STEM. The panel will consist of **a diverse array of women from various backgrounds related to STEM**. The second hour of the workshop will include small group hands-on activities in which participants will be able to interact with the STEM professionals.

This panel discussion and workshop will open the eyes to realities of a career in STEM for girls. *FIRST* values and celebrates both women and girls in STEM. Join us as we **highlight and encourage more girls in STEM**. Get ready for a memorable experience!

#FIRSTLikeAGirl will be used to promote this year's 2018 Women in STEM Panel Conference session leading up to, during, and following our *FIRST* World Championship events in Houston and Detroit. We invite you to join this year's discussion.

Jennifer, #FIRSTLikeAGirl Lead with Exploding Bacon served as a table facilitator in Houston.



#FIRSTLIKEAGIRL

WOMEN IN STEM PANEL & WORKSHOP

Moderator

Emma Dumont
FIRST® Alum

Featured Panelists

Stacey Butler
*Director of Innovation and
NRG Go, NRG Energy*

Erica Fessia
*Director of Community
Engagement and Executive
Director of the Qualcomm
Foundation, Qualcomm®
Incorporated*

Andrea Lawler
*Imagineer, Walt Disney
Imagineering*

Friday, April 20
11:00 a.m. - 1:00 p.m.

Room 370
George R. Brown
Convention Center

Rhonda Pelton
*Process Automation Manager,
Dow Chemical*

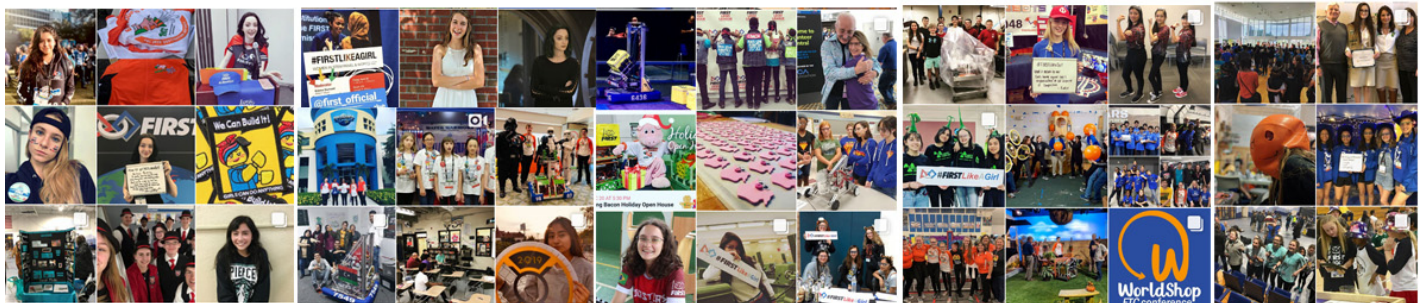
Hope Shimabuku
*Director of the Texas Regional
United States Patent and
Trademark Office, USPTO*

Danielle Zuercher
*Industry Account Manager,
Rockwell Automation*

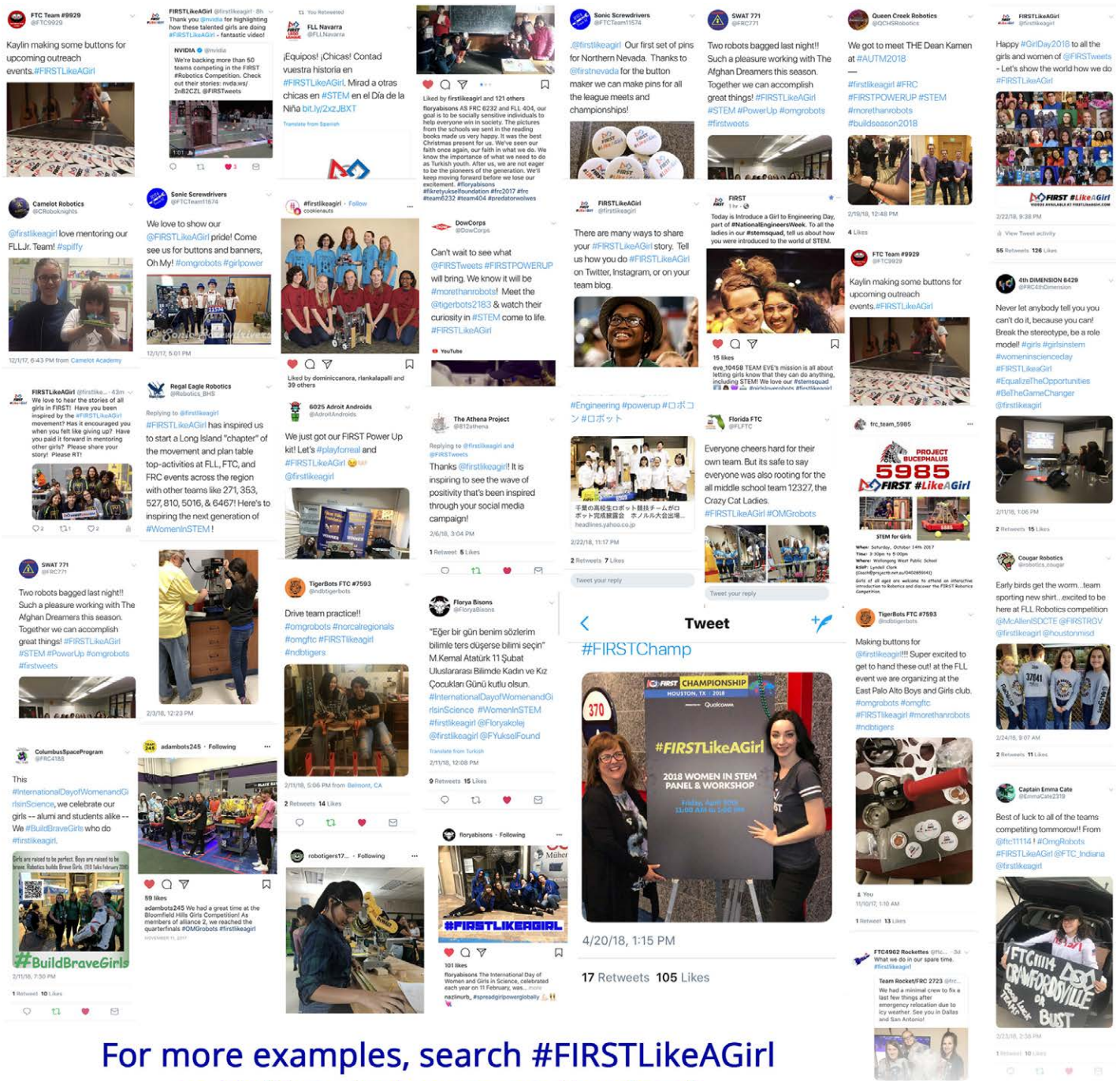


Join the conversation
#FIRSTLikeAGirl

#LikeAGirl Instagram Engagement Examples



#LikeAGirl Twitter Engagement Examples



For more examples, search #FIRSTLikeAGirl on Twitter, Instagram or Facebook

Girls around the World are sharing their stories... and we LOVE it!



#LikeAGirl Social Media Reach

Corporate

3M
Bechtel
Actobotics
Actuonix
AndyMark Inc.
Boston Scientific
Chevron CR Stories
Defensewerx
Dell Legacy of Good
Dow Corps
Electronic Components
Industry Assn.
Florida High Tech Corridor
Girl Scouts
Microsoft Women
Ni FIRST Robotics
North American Tool
NRG Energy
Qualcomm
Shell Eco-marathon
STPCRAFT CNC USA
STPCRAFT for EDU
SuperDroid Robotics
Tetrix by Pitsco
Toshiba

Influential People

Andy Baker (of **AndyMark**)
Barb McAllister Whye - Chief
Diversity & Inclusion Officer
@Intel HR VP
Bea Rabalais (Candidate for Clerk
of the Court - MD)
Carol R Nelson - Program Team
@Verizon Foundation

Emma Dumont - FIRST Alum - actress

Gabriel Goldman **National
Robotics Engineering Center**,
Pittsburgh
Garrett Ponder (Corp. Marketing -
Strategic Sponsorships/
Partnerships **@Qualcomm**)
Gitanjali Rao (3M Young Scientist
Challenge Winner 2017)
Greg Jones - VP **Smartforce**
Development - **Board member**
**Association for manufacturing
Technology**
John Delaney (**Congressman** -
Maryland and Presidential
Candidate for 2020)
John G. Courtney UK (**Oracle** &
Regional Director)
Johnna Mitich (**Boston Scientific**)
Jonathan Gerlach (**Discovery
Education** - Sr. Manager Global
STEM Initiatives)
Karen Carter - chief officer at **Dow
Chemical**
Katherine Hebert **@boozallen**
Kim Wierman Reid - Director,
Laura Hayman - Corporate
citizenship **@BoozAllen**
Marie Planchard-engineering
education **Solidworks**
Melissa Smith - **Google/Youtube**
(UCF Alum)
Patrick Barnes - program director
Global #STEM **@johndeere**
PJ Graham - Marketing at **Pitsco
Education**
Ravikumar Veerasamy (Sr
Program Mgr, **Leidos**)
Rukhsana Syed - **IBM** Canada,
Diversity and Compliance

Sarah Whang - Software dev.

Universal/Comcast (was at
meeting with FIRSTLikeAGirl)
Smore Magazine
Tamara Robertson (Mythbusters:
The Search Finalist)
Taylor Richardson
(**@Astrostarbright**)
Tracy Fanara/Dr. Tre -
Mythbusters

Robotics/ STEM Organizations/Schools

A.T. Makers - Tarpon Springs
Acadia Robotics Nova Scotia,
Canada
AutoVortex (Romania)
BOTS (U of F)
Bure Valley STEM (England)
Dav West Robotics
Denison Engineering (BEST)
Denkbots
Educabot (Spain)
Energy Pathway
Engineering For Kids - Inland
Empire
EV3Lessons
Femineer San Diego
Futura Dubrovnik (Croatia)
GirlsSTEM Conference (Ontario)
Her STEM Story (Providence, RI)
Liceo 6 Rivera (Rivera, Uruguay)
Make Them Mainstream (Women
in Stem)
Marine Park Robotics
MathNScience - Tallahassee
School of M & S
McAllen ISD CTE
NEOHbots (North East Ohio
Robotics)
Notre Dame Belmont (all-girls school)
Orange Technical College

Queen City Robotics Charlotte, NC
 Rayburn Robotics, McAllen, TX
 RI FTC
 Robotica Guimar (Tenerife, Spain)
 Roboticon Tampa Bay
 Robotics Newz
 Rockwood Robotics (Missouri)
 Rowan Robotics Club (University)
 SACOT (STEM Advisory
 Conference Texas)
 SD FIRST Robotics (San Diego)
 SLSRA - St. Louis Student
 Robotics Association
 SMVC-JBoroughs - Shell
 Eco-Marathon
 SO Unified Robotics
 Space Nation (Space media)
 Space Newz
 SPIE Women in Optics
 St. Brigid's RoboClub (Perth,
 Australia)
 St. Monica's Milton Primary
 School - Scotland
 STEM2Hub Jax
 STEM Kids Rock (Canada)
 TDSB Robotics
 The Athena Project
 The Ellis School (Pittsburgh, PA)
 Tools & Tiaras (nonprofit, girls in
 construction)
 TSTC Waco (Texas State
 Technical College)
 UOIT Engineering (Univ. of
 Ontario)
 USF Research
 Volusia STEM
 Windsor Essex Robotics Club (,
 ON, Canada)
 YouthLink (Stem Ed, S. Carolina)

FIRST Related

Michelle Long - Alumni Program
 @FIRSTtweets
 Shelley Henderson - *FIRST*
 Diversity & Inclusion Mgr
FIRST Robotics Competition
FIRST Tech Challenge
FIRST LEGO League
FIRST LEGO League, Jr -
 Manchester, NH
FIRST Hudson Valley
FIRST Oklahoma

FIRST - RGV (Texas)
FIRST Robotics CANADA
FIRST SA (South Africa)
FIRST Skills Club (Tunisia)
FIRST Global
FIRST VISTA
 FLL Canaries
 FLLTgn_Res (Tarragona - Spain)
 Renee Becker-Blau (FRC Alumni,
 Exec Director of Indiana FIRST)
 Hybrid Beta - VEX London
 Indiana FIRST
 Kyle Hughes (lead mentor Team
 Rush 27)
 Clarion Robotics #601 - Best
 Robotics
 Compass Alliance
 First Lego Ideas
 Emma Cate, Captain FRC 1114

Organizations and Tech Individuals - non-FIRST

#geekygirlreality
 ACE of Florida Inc
 Adv Women in Eng
 Alisha Ross HR Advisor for
 wattsnext Australia
 Anesu Masube zw(Founder
 @oppsforzim)
 April Caldwell - Visionary
 Financial Services
 Aretha Mare (STEM/women -
 Zimbabwe)
 Avenger Engineering
 Boston Maker Faire
 Brett Haase (augmented reality
 company)
 Brian Fanzo (Podcast host)
 Britani Deaton - Owner/Creative
 director
 Broward Science
 CalTran - Alumni
 Camp Tech Terra
 Carrie Sammut - Ontario,
 Mathematician
 CA STEM Network - Oakland CA
 Chari Distler (Academic Tech
 Teacher - FL)
 Charlotte Beckhurst - educator

ChickTech Seattle
 Chris Ippolito PLTW and EV3
 Instructor
 Code Like a Girl
 CoderZ
 Daniel Osenstein - Microsoft
 Program Manager
 DevFest Florida
 DMStevens
 Dr, Niamh Shaw - Ireland
 Dr. Sean Miles (Coordinator of UK
 Space Labs)
 Drexel Univ. SWE
 Eagle Robotics (Best Robotics)
 EdCo (fundraising toolkit for
 teachers)
 Eduporium
 Electric Girls
 Elizabeth Park - educational
 technology Hawaii
 Eliza Popescu (education)
 Ellie Ann, NYT Bestseller, Write
 SFF & comics
 Ellie Lee, Software engineer IBM
 in London
 Emily D'Andrea - Microsoft
 Epoca
 Erica Wagner - @ScienceHerWay
 Eric Neuman - Director of VR
 Platform
 FemSTEM
 Fire Service WomenNY
 Florida Girls STEM
 Gail @therobotfairy CoDir of
 Robotics
 Get Her Trade - UK
 GFPA foundation (Girls Fly
 program in Africa - South Africa)
 Girl Scouts (River Valley)
 Girl Scouts (Southern Illinois)
 Girl Scouts - GSCSNJ (New Jersey)
 GirlsGoIT (Moldova)
 Girls in STEM EAC
 Girls in Tech SD - non-profit San
 Diego, CA
 Girls Invent - Melbourne, Victoria
 Australia
 Grande Verde ZM (Southern
 Africa)
 Havana @TheTinyDiplomat
 Washington, D.C.

Hirai Internet Labs (Japan)
Hub Resource
IBTACertified
INTech Tenerife (Canary Islands, Spain)
IntelSec News (Intelligence & security news)
ISU Engineering Kids (Iowa)
Javafest (teacher, BC, Canada)
Jay Flores - Global STEM Ambassador
Jeff Hagan (civil engineer - Ontario)
Jennifer Medd - Teacher Ontario
Jeremy Cole (Pilot, Robotics, Electronics...)
Jeremy Zweiacker (TechEd)
Jo Douglas (Process Scientist at British Sugar)
Josh Halverson - engineer
Kathy Ceceri (STEM author/workshops)
Katy Noelle Scott (edtech and makerEd in k-12 classrooms)
Kelly Gossman (LEGO Robotics mentor, Girl Scout Leader)
Kids Code Jeunesse
KidzInvent!
Kija Davis - FIRST volunteer
Kim Wierman Reid - Director, FIRST LEGO League and FIRST LEGO League, Jr -Manchester, NH
Kris McDonald Tech Blogger
Kristine Holloway - educator, @Code4Girlz founder
Kristi Scarpone - Corporate philanthropy and crowdfunding expert
Kyle Berger CTO
Grapevine-Colleyville ISD Texas
laalityaacharya (3M Young Scientist Finalist)
Let's Code, Girls!
LikeAGirl Productions - produces documentaries
Linea Palmisano - Minneapolis City Council
Magda Galloway - IT Instructor
UofNIowa

Mahdi Fakhfakh First Skills Club Coach - Tunisia
Manufacturing Stories
Maria Sobina Yu
-founderastronomy - Phillipines)
Mariem Mimouni - Programmer, Tunisia
Marko Lohert (Software Developer - Croatia)
Mathew Lynch (editor The Tech Advocate, blogger for Huffington Post & Education Week)
Matthew McKean - Associate Director, Education]
Mbadika (MIT startup)
Michelle S. Lee (engineer)
Mixer Direct, Inc
My Girl Heroes
Narjis Hilale (women empowerment - Switzerland)
Natalie Jansen (FRC MC Pacific NW)
NECSI - New England Complex Systems Institute (Cambridge, MA)
Nerdy Girls
New York Inspires
Nia Mya Reese (8 year old author)
Nour Hachem (Ontario, Canada)
Nuke Time (comp. promotes Nuclear Energy)
ONA Today
ons kharrat - Coach First Skills Club - Tunisia
Peggy Sattler (Provincial Parliament London West, Ontario)
Phil Shapiro, edtech blogger
Pink Backpack - Gender equality
Pioneers in Skirts
Planetario Pamplona (Center for education and technology, Spain)
PLTW San Diego (Project Lead the Way)
Primary Futures (UK)
Princess Auto
Rachel Tobac (UX Research @CourseHero)
Raising Black Scholars
Rebekah Radice - (Radiant Media LA - social media/marketing)
Robin Sparkles - engineer

Ross, Owner Learn it and Stem Solutions, Ireland
Rukmini Foundation
Sami Masmoudy First Skills Club Tunisia
Say It Forward - (Encourages women and girls...)
School of PE (PE and FE exam review courses for NCEES Cert.)
Semia USA
SemiElectronics (semiconductor & electronic tech news)
Shaan Hurley, Autodesk
Sharon K D'Agostino (sayitforward.org)
Shelene Klote (Orlando realtor)
Shera Rubinoff (Social media Cyber security)
SLS at De Lacy (England)
Smargasy Inc (software company - FL)
Spark 2017
St. Mary's Academy - all girls school CA
STEMbees
STEMIE Coalition
StemPower Girls
Stephan Baach - Architect @ladiesinside
StitchKit.io - fashion tech kit - Calgary, Alberta
Susan Ho (Canada - Gamma Tech Consulting)
Susan Reynolds (IBM, Women in Tech)
Tech-nic-Allie (@robotMakerGirl)
The WXR Venture Fund (Women Start ups)
Trashbots
TSTC Waco (Texas State Technical College)
UTSA Collegiate Drone Racing
Women and Work APPG
Women in Aviation
Women of 911
Yvonne Pilon (President, @WETECHAlliance)

AND MORE!

FIRST[®] **#LikeAGirl** *In Pictures*



Team Resistance, 86



FRC Kickoff Orlando



FLL Regional States



Making Buttons



Roboticon, off season



Texas Regional



Ontario Canada



FIRST LEGO League



FTC West Super Regional

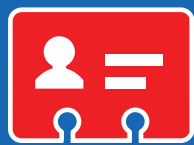


South Florida



FIRST LEGO League Jr

#FIRSTLikeAGirl has helped to evolve the community of girls interested STEM into a very united and supportive place. That helps to keep girls like me active in STEM.
- Kaitlyn, member of Team Resistance, 86



FIRSTAlliances

Showcase and Inspire, Everywhere

We are constantly amazed by the impact that individual **FIRST** teams have on their communities. We believe that if **FIRST** teams work together as an Alliance, combining the impact of the 400,000+ students in **FIRST**, we can reach greater heights and inspire more people than ever before.

[Get Involved](#)[Tell Me More](#)

Business

28 entries



Programming

34 entries



Outreach

41 entries



Rookie Help

26 entries



Strategy

34 entries

FIRST Alliances is a directory of FIRST teams and their programs, highlighting their initiatives, strengths, and impact. Teams, sponsors, and external entities can discover teams and programs in one central location.

160+
Teams
FROM 10 COUNTRIES

81
FRC teams

47
FLL teams

33
FTC teams

2
FLL Jr teams

56
Programs

**Launched in Dec 2017 and still growing!*

Exploding Bacon has launched multiple outreach programs over the past couple years that have only seen success because many teams around the world have gotten involved. We love partnering with other teams, but often have trouble finding information about what they're doing to get out into their communities. We hope that FIRST Alliances will create a place where it is easy for connections between teams to be made.

Built and Managed by Bacon Members

firstalliances.org



FIRSTAlliances Team List

258 Participating teams as of 04/14/19

173 FRC, 35 FTC, 47 FLL, 2 FLL Jr. and 1 FGC

Representing 34 States and 12 Countries

Current numbers available at firstalliances.org/about/

FRC 1902 Exploding Bacon, FL, US
 FRC 245 Adambots, MI, US
 FRC 2898 Flying Hedgehogs, OR, US
 FTC 5937 Renaissance Robotics, FL, US
 FRC 4150 FRobotics, PA, US
 FRC 5816 Gra-V Robotics, FL, US
 FRC 2152 S*M*A*S*H, FL, US
 FRC 4118 Roaring Riptide, FL, US
 FRC 1257 Parallel Universe, NJ, US
 FTC 14147 High Voltage Couch Bananas, ID, US
 FRC 180 S.P.A.M., FL, US
 FRC 503 Frog Force, MI, US
 FTC 9779 PIEaters, FL, US
 FRC 313 The Bionic Zebras, MI, US
 FLL 51 Not the Droids You Are Looking For PA, US
 FRC 5414 Pearadox, TX, US
 FLL 8265 Bacon Builders, FL, US
 FRC 1458 Red Tie Robotics, CA, US
 FLL 913 TAZ BOTS, FL, US
 FRC 2468 Team Appreciate, TX, US
 FRC 226 Hammerheads, MI, US
 FRC 3184 Blaze Robotics, MN, US
 FRC 103 Cybersonics, PA, US
 FTC 7195 Mechical Memes, CA, US
 FLL 100 Team Storm, IN, US
 FRC 701 RoboVikes, CA, 95687
 FLL 11 Baking Soda Volcano Fire Hazard, OK, US
 FRC 744 Shark Attack, FL, US
 FTC 7172 Technical Difficulties, TX, US
 FRC 3176 Purple Precision IN, US
 FRC 5256 Atomic Vikings MI, US
 FRC 2370 IBOTs, VT, US
 FTC 12651 Metal Knights, AK, US
 FRC 1836 The MilkenKnights, CA, US
 FTC 12868 Ironclad, IL, US
 FTC 9958 Redfish Robotics, LA, US
 FTC 12715 Robo Tux Cats, FL, US
 FTC 4042 Nonstandard Deviation, WA, US
 FRC 87 Diablo, NJ, US
 FRC 6898 The Undergraduate School of Carrots TX, US

FRC 4091 DRIFT, Santo Domingo, Dominican Republic
 FRC 4063 TriKzR4Kidz, TX, US
 FTC 3737 Hank's Tanks, MA, US
 FRC 1369 Minotaur, FL, US
 FTC 9835 RoboChicks, GA, US
 FTC 8496 Heat it up and Keep it cool Robotics, CA, US
 FRC 1540 Flaming Chickens, OR, US
 FTC 11104 The Bearded Pineapples, WA
 FLL 17355 Thunderbolts, TX, US
 FTC 11392 Defenestration, IL, US
 FRC 3132 Thunder Down Under Sydney, NSW, Australia
 FTC 2818 G-FORCE, MD, US
 FRC 386 Team Voltage Melbourne, FL, US
 FLL 1920 In Situ, IN, US
 FRC 233 The Pink Team, FL, US
 FRC 1086 Blue Cheese, VA, US
 FTC 10650 HazMat Biohazards, FL, US
 FLL 24743 MAAD Lego Queens, MA, US
 FLL 16555 The Masterminds, CA, 90250
 FRC 4592 M3 Mighty Mechanical Mustangs FL, US
 FRC 253 Mills Robotics Team, CA, US
 FTC 12928 LightSader, TX, US
 FRC 5026 Iron Panthers, CA, US
 FTC 3525 Crossroads Robotics, OR, US
 FRC 2869 Regal Eagles, NY, US
 FLL 7991 Slime Queens, GA, US
 FLL 19358 Super Legotastics, GA, US
 FLL 26330 Bird Brains, GA, US
 FRC 6325 Reset Robotics, GA, US
 FRC 230 Gaelhawks, CT, US
 FTC 11515 RobotIGS GÃfÃttingen , Lower Saxony, Germany
 FRC 6832 Robotrojans STEAMex San Pedro Garza Garcia, Nuevo Leon, Mexico
 FRC 2473 Goldstrikers, CA, US
 FRC 5123 Mechadogs, NY, US
 FTC 11062 CookieNauts, UT, US
 FRC 6643 Walnuts and Bolts Racine, WS
 FLL 30493 MineKee, Ontario, Canada
 FRC 3692 Rock N' Robotics, WI, US



FLL 165 Blue Sharks Kfar Yona, Israel
 FLL 8 New Atom Recife, PE, Brazil
 FRC 4468 Fernbank LINKS, GA, US
 FTC 6040 Canton Robodogs, MA, US
 FRC 2614 Mountaineer Area Robotics (MARS), WV, US
 FTC 9277 HazMat Explosives, FL, US
 FTC 9984 JavaScouts, NY, US
 FRC 1511 Rolling Thunder, NY, US
 FLL 30939 Team Talos, Ontario, Canada
 FLL 11625 DÃfÃ©jÃfÃ Vu, FL, US
 FTC 265 Viking Robotics, WS, US
 FRC 3641 The Flying Toasters, MI, US
 FRC 1592 Bionic Tigers, FL, 32922
 FRC 2410 Blue Valley CAPS Metal Mustang Robotics, KS, US
 FRC 1982 Cougar Robotics, KS, US
 FRC 972 Iron Claw, CA, US
 FRC 1325 Inverse Paradox, ON, Canada
 FRC 5854 GLITCH, NC, US
 FRC 4480 UC-Botics, MN, US
 FLL 3420 Squirtle Squad, FL, US
 FTC 12030 Brain Storm, FL, US
 FLL 34572 Error 404: Team Not Found, FL, US
 FRC 2905 Sultans of Turkiye Istanbul, Turkey
 FLL 7714 Battledroids, FL, US
 FLL 7715 Droid Deka, FL, US
 JFLL 3390 Cloverbots Blue, FL, US
 JFLL 3096 Cloverbots Pink, FL, US
 FTC 7477 Super 7, FL, US
 FLL 4460 Top Notch Bots, FL, US
 FRC 5472 Stallion Robotics, FL, US
 FRC 5980 East Grand Rapids Robotics East, MI, US
 FRC 624 CRYptonite, TX, US
 FRC 6606 Tecmilenio PINK HAWKS 6606 Toluca, Mexico
 FRC 4188 Columbus Space Program, GA, US
 FRC 2169 KING TeC, MN, US
 FRC 2907 Lion Robotics, WA, US
 FLL 15794 Buckley Cyber Bulldogs, NY
 FLL 157 PANDORA Diyarbakir, Turkey
 FLL 10240 Aqua Lifters, FL, US
 FLL 920 Storm Surge, FL, US
 FRC 2177 The Robettes, MN, US
 FRC 6001 CIP, Colombia
 FRC 442 Redstone Robotics, AL, US
 FLL 1358 The Ruling Robot Falcons, VA
 FRC 1533 Triple Strange, NC, US
 FTC 6559 Geared Reaction, WA
 FRC 1939 THE KUHNIGITS, MO, US
 FRC 3035 Droid Rage, TX, US
 FRC 4180 Iron Riders, WA, US
 FGC 1 Team China Beijing, China
 FTC 6037 WAGS NJ, US
 FRC 5243 Aegis Robotics, VA, US

FRC 3284 Camdenton LASER, MO, US
 FTC 8417 The 'Lectric Legends, KY, US
 FRC 5655 KelRot Istanbul, Turkey
 FLL 39633 Toxic Taco Tuesday, FL, US
 FRC 3739 Oakbotics, Ontario, Canada
 FLL 399 NRG Villavicencio, Meta, Colombia
 FLL 484 Blockheads, OH, US
 FLL 39496 Battle Builders, FL, US
 FLL 37697 Radioactive Brainstorm, FL
 FTC 9312 Mississippi FIRST Tech Challenge, MS, US
 FRC 4607 C.I.S., MN, US
 FRC 1523 MARS (Mega Awesome Robotic Systems), FL, US
 FRC 4039 MakeShift Robotics, ON, Canada
 FLL 37499 The Voyagers, FL, US
 FRC 2067 Apple Pi, CT, US
 FLL 24664 Sharkbots, FL, US
 FLL 17873 The Nuclear Bananas, FL, US
 FLL 34972 SuperWolves, FL, US
 FLL 37687 The Flamingos, FL
 FLL 26689 gGatorBots Mims, FL, US
 FLL 25109 Galaxy Girls Sugarland, TX
 FRC 5190 Green Hope Falcons Cary, NC
 FLL 13 Edurobotic Mercury Edurobotic, Maria Diaz de Haro Kalea, 68, 48920 Portugalete, Bizkaia, Spain
 FRC 6995 NOMAD, CA, US
 FLL 28721 Super Aqua Squad, AZ, US
 FLL 307 TEAM VOLTAGE Diyarbak?r, Turkey
 FLL 43058 Tuskawilla Golden Falconbots, FL, US
 FRC 2239 Technocrats Hopkins, MN, US
 FLL 286 Aurora Diyarbak?r, Turkey
 FLL 1282 Landederos Gamberros Elburgo, Basque Country, Spain
 FRC 5412 Impossible Robotics The Netherlands
 FRC 2212 The Spikes Lod, Israel
 FLL 23356 The Moment Makers, TX, US
 FRC 135 Penn Robotics, IN, US
 FLL 37449 Astromech TECH, TX, US
 FTC 14215 Plaid Piranhas, FL, US
 FTC 12974 57th Mech, GA, US
 FTC 8477 4-H Rohming Robots, SC, US
 FRC 3627 The Jungle Robotics, FL, US
 FRC 801 Horsepower, FL, US
 FRC 2797 Knight & Nerdy, FL, US
 FRC 4179 Tahisco Techs, FL, US
 FRC 4471 SPARTRONS, FL, US
 FRC 3164 Stealth Tigers, FL, US
 FRC 4562 RIOT, FL, US
 FRC 4622 Academy at the Lakes Wildcats, FL, US
 FRC 4972 BORUSN ROBOTICS, Esenyurt, Istanbul, Turkey

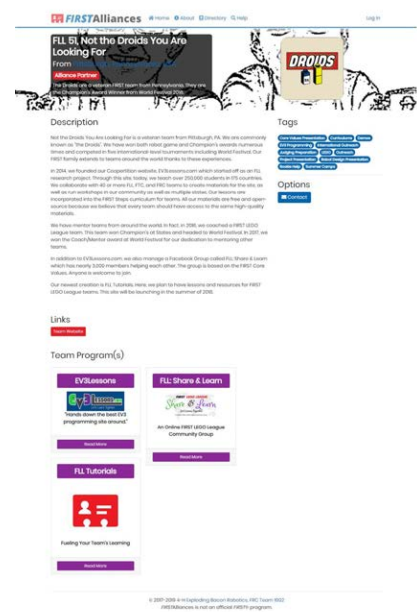
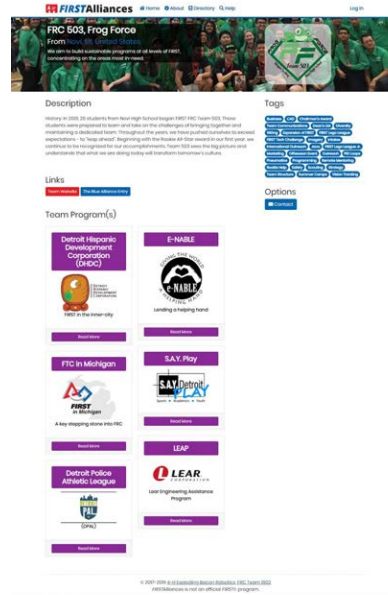
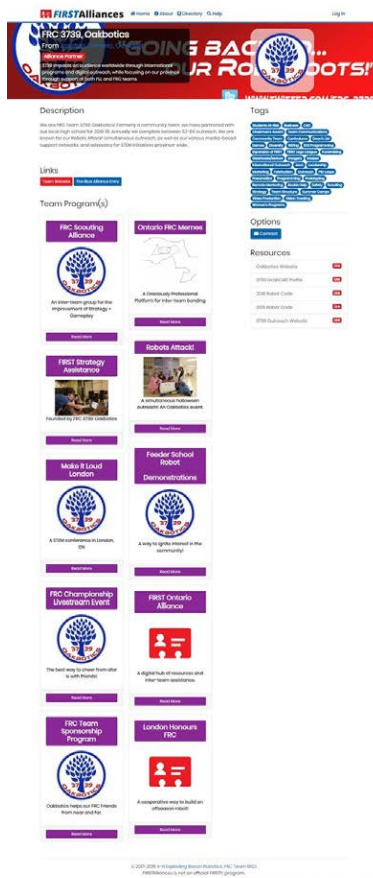


FRC 5145 WolfBotics, FL, US
 FRC 5276 Edgar Allan Ohms, FL, US
 FRC 5283 Torque, FL, US
 FRC 5557 BB-R8ERS, FL, US
 FRC 5722 Seahawks, FL, US
 FRC 5753 St. Joseph Acad Flashes, FL
 FRC 5842 Royal Robotics, FL, US
 FRC 6527 Short SirKit, FL, US
 FRC 6722 L.E.D.s Robotics, FL US
 FRC 7193 Invictus, , FL, US
 FRC 7231 Team Freedom, Santo Domingo,
 Distrito Nacional, Dominican Republic
 FRC 1251 Tech-Tiger Robotics, 4-H, FL
 FRC 1382 ETEP Team, Sao Jose dos
 Campos, São Paulo, Brazil
 FRC 1065 The Moose, FL, US
 FRC 945 Team Banana, FL, US
 FRC 1557 12 Volt Bolt, FL, US
 FRC 1649 Lakerbotics (Lakers), FL, US
 FRC 1744 Robo Rays, FL, US
 FRC 1772 The Brazilian Trail Blazers,
 Gravataí, Rio Grande do Sul, Brazil
 FRC 2383 Ninjineers, FL, US
 FRC 3242 ILLUMICATS, FL, US
 FRC 3410 Miami MEngs, FL, US
 FRC 3556 GET SMART, FL, US
 FRC 3653 BOTCATS, FL, US
 FRC 3932 The Dirty Mechanics, FL, US
 FRC 4024 The Jokers, FL, US

FRC 4065 Nerds of Prey, FL, US
 FRC 86 Team Resistance, FL, US
 FRC 179 Children of the Swamp, FL, US
 FRC 21 ComBBAT, FL, US
 FRC 59 RamTech, FL, US
 FRC 7431 Wingspan, FL, US
 FRC 7450 oTECH Aimbots, FL, US
 FRC 7500 MARAUDERS, FL, US
 FRC 7774 Duval Techs, FL, US
 FRC 6184 Leon Robotics, FL, US
 FRC 79 Team Krunch, FL, US
 FRC 6322 ONECLAY A.R.M.O.R.Y., FL
 FRC 6850 Cell-Ticks , FL, US
 FRC 6473 Rock Star Robotics, FL, US
 FRC 7442 Jaggernaut, FL, US
 FRC 6932 S.M.A.R.T., NC, US
 FRC 6914 Retro5ive, MI, US
 FRC 832 Oscar Roswell, GA, US
 FRC 1102 M'Aiken Magic, GA, US
 FRC 1311 Kell Robotics, GA, US
 FRC 1002 The CircuitRunners, GA, US
 FRC 1261 Robo Lions, GA, US
 FRC 1648 G3 Robotics, GA, US
 FRC 1414 IHOT, GA, US
 FRC 1683 Techno Titans, GA, US
 FRC 1771 North Gwinnett Robotics, GA
 FRC 1746 OTTO, GA, US
 FRC 2415 WiredCats, GA, US
 FRC 2974 Walton Robotics, GA, US
 FRC 3329 Wildbots, GA, US

FRC 5243 Aegis Robotics, VA, US
 FRC 3284 Camdenton LASER, MO, US
 FRC 3581 THINC Robotics Alliance, GA
 FRC 3635 Flying Legion, GA, US
 FRC 3998 Redneck Robotics, GA, US
 FRC 4112 EagleBots Cumming , GA, US
 FRC 4459 LeoTechs, GA, US
 FRC 4701 Warriors (Team W.I.R.E.), GA
 FRC 4910 East Cobb Robotics, GA, US
 FRC 4941 RoboBibb, GA, US
 FRC 5109 Gladiator Robotics, GA, US
 FRC 5293 Metal CrUSders, GA, US
 FRC 5332 Toaster Tech, GA, US
 FRC 5651 Maynard Jackson Jungle C.A.Ts,
 GA, US
 FRC 5840 Shock Wave, GA, US
 FRC 5900 Career Blazer Robotics Team - The
 Fighting Mongooses, GA, US
 FRC 6340 The Marist Manatees, GA, US
 FRC 6341 Etowah Electric Eagles, GA
 FRC 6705 WildCat 5e, GA, US
 FRC 6887 Dalton Catabots, GA, US
 FRC 7315 Giga Knights, GA, US
 FRC 7427 Protocol X Robotics, GA, US
 FRC 7449 Lithium Robotics, GA, US
 FRC 7451 Avenger Robotics, GA, US
 FRC 7514 EVE Robotics, GA, US
 FRC 7883 CCHS Robotics, GA, US
 FTC 14191 Galactic Squirrels, FL, US

... and counting!



Examples of Team pages

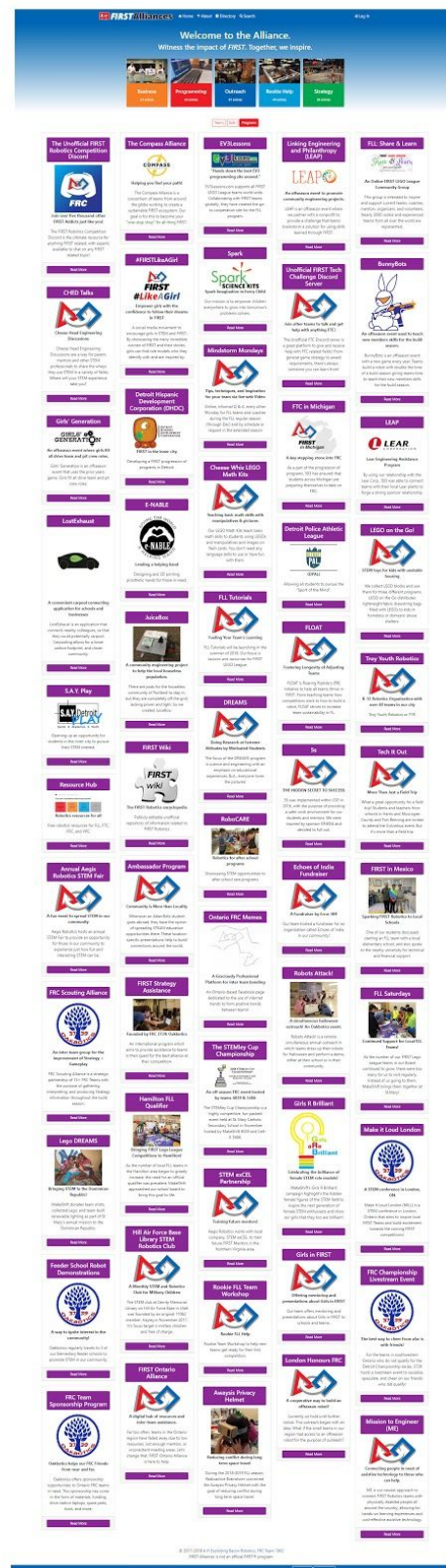
FIRSTAlliances.org Program List

Showcasing FIRST team's programs, enabling more people to get involved and more teams to collaborate and grow FIRST's impact.

61 Programs and 65+ Resources created and posted by *FIRST* Teams

As of 4/14/19, current numbers available at firstalliances.org

- #FIRSTLikeAGirl: by FRC 1902
- Spark by FRC 1902
- Big Bacon Theory of Image and Marketing by FRC 1902
- Troy Youth Robotics: by FRC 226
- Resource Hub: by FRC 1836
- BunnyBots: by FRC 1540
- Girls' Generation : by FRC 1540
- RoboCARE: by FRC 226
- Linking Engineering and Philanthropy (LEAP): by FRC 1540 & 503
- LEGO on the Go!: by FRC 1086
- Cheese Whiz LEGO Math Kits by FRC 1086
- CHED Talks: by FRC 1086
- JuiceBox: by FRC 1540
- EV3Lessons: by FLL 51
- FLL: Share & Learn: by FLL 51
- Mindstorm Mondays: by FLL 20687
- The Compass Alliance: by FRC 3132
- LostExhaust: by FRC 1540
- Ambassador Program: by FRC 245
- Detroit Hispanic Development Corporation (DHDC): by FRC 503
- E-NABLE: by FRC 503
- FTC in Michigan: by FRC 503
- S.A.Y. Play: by FRC 503
- Detroit Police Athletic League: by FRC 503
- LEAP : by FRC 503
- FIRST Wiki: by FRC 1982
- The Unofficial FIRST Robotics Competition Discord: by FRC 1982
- Echoes of India Fundraiser: by FLL 34572
- DREAMS: by FRC 4188
- Tech It Out: by FRC 4188
- 5s: by FRC 4188
- FLOAT by FRC 4118
- Rookie FLL Team Workshop by Hill Air Force Base Library STEM Robotics Club by FTC 11062
- Girls in FIRST by FTC 11062
- Annual Aegis Robotics STEM Fair by FRC 5243
- STEM exCEL Partnership by FRC 5243
- Unofficial FIRST Tech Challenge Discord Server
- FRC Scouting Alliance by 3739
- Ontario FRC Memes by 3739
- FIRST Strategy Assistance by 3739
- Robots Attack! by 3739
- Make it Loud London by 3739
- Feeder School Robot Demonstrations by 3739
- FRC Championship Livestream Event by 3739
- FIRST Ontario Alliance by 3739
- FRC Team Sponsorship Program by 3739
- Girls R Brilliant by 4039
- The STEMley Cup Championship by 4039
- Lego DREAMS by 4039
- Hamilton FLL Qualifier by 4039
- FIRST in Mexico by 4039
- FLL Saturdays by 4039
- Spikes Lib by 2212



Share Your Project with the *FIRST* Community on



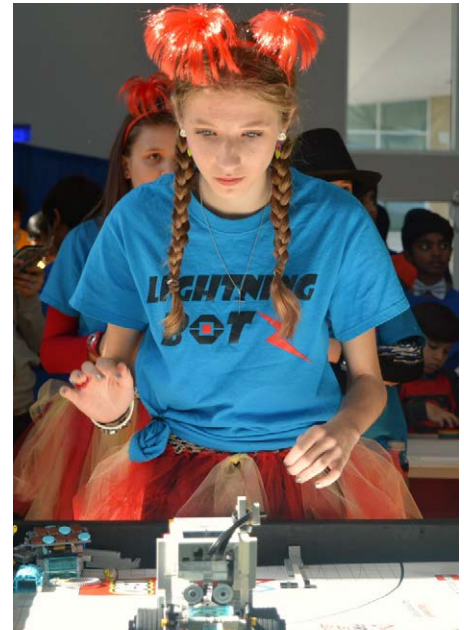
A PLACE FOR ALL

Enter your *FIRST* team and outreach programs and projects into the directory for the world to see.



A CENTRAL DIRECTORY

Find out what ***FIRST*** teams around the world are up to. Search for teams and programs, and reach out to those that interest you!



A *FIRST* ALLIANCE

Join an ever-growing community of Gracious Professionals sharing their programs with the world and collaborating with others.

We are constantly amazed by the impact that individual ***FIRST*** teams have on their communities. We believe that by showcasing the combined impact of the 400,000+ students in ***FIRST***, we can reach greater heights and inspire more people than ever before and **#MakeItLoud**.

An initiative of 4-H Exploding Bacon Robotics, Team 1902.

Create an account at
FIRSTAlliances.org

Upload a Team picture
& description

Create a program page for
your project.

#TogetherWeInspire



Business Plan

TEAM MISSION STATEMENT:

4-H Exploding Bacon (EB) is dedicated to creating an environment where our students live by our mission statement: "Have fun doing cool things that help people." Our students embody our mission statement by sharing their passion for FIRST and STEM through thousands of hours of outreach. The binding force of our team is our family atmosphere that encourages our members to come back day after day, determined to make an impact on our community together.

ABOUT OUR TEAM:

Our members converge at our build space from 4 counties and 13 schools plus homeschoolers. EB's family atmosphere extends outside of our team with strong sponsor relations and retention. We update and thank our sponsors every season through email newsletters, event demonstrations, volunteering at their events, and an annual celebration where we share our accomplishments made possible by their services and the impact of their support. EB's cohesive leadership structure empowers our students to discover valuable leadership and communication skills by developing impactful programs. Using these skills, students work together to develop and execute short and long term goals along with reviewing and revising plans to influence our community. We spread FIRST and STEM across our local and global communities through our widespread outreach programs. Spark provides STEM opportunities for hands-on exploration, #FIRSTLikeAGirl creates opportunities to empower females all over, and FIRSTAlliances unifies the efforts of FIRST teams around the world. Our students use these programs to direct their passion and efforts of helping others learn, connect, and lead toward making an even bigger impact on those who need it, embodying our mission statement so that #TogetherWeInspire.



DEPLOYMENT OF RESOURCES:

Our greatest resources are our students, mentors, and connections in our community. EB's outreach not only spreads the message of *FIRST* and encourages others to get involved, but allows students to fully realize the benefits of *FIRST*. We use many of our resources on the development of Spark; a shoebox sized science kit meant to teach kids with few resources basic STEM principles. So far, we have 133 kits sent out to 43 countries and counting. Our students see the direct impact of their efforts as they test experiments, raise funds, build kits, actively seek new places to send kits, and hear feedback from those that Spark has impacted.

EB has hosted summer camps since 2012, introducing 8-12 yr olds to STEM through science experiments, LEGO NXT robots, coopertition, and teamwork. Many of these kids have continued into FLL by joining a team or creating their own. Some have even gone on to join EB. Extensive outreach provides us with the opportunity to encourage students, families, and teachers to learn more about *FIRST* and create their own teams.

This past year we worked with our sponsor Comcast NBCUniversal's NBCU Media Tech team to create our EB/Universal Social Media Hackathon where we had a brainstorming session similar to our Strategic Planning meeting. We selected a current focus of our team, our social media strength, and split into groups consisting of students and sponsors, each coming up with short and long term improvements; presenting it to the rest of the team when finished. We took all of our results, re-evaluated as a group, and plotted the route we were going to take. Strengthening

relationships through these events has benefited our team tremendously, and we are excited to continue growth. This is our second such event with Universal Media Tech. Our 2017 Hackathon addressed our IT challenges and opportunities.

FUTURE PLANS:

We began our Strategic Planning process in 2014 as a brainstorming session that produced over 500 ideas. Currently, it is an annual meeting where we refocus our goals to stay on track and remain sustainable. We continuously achieve short term goals by getting out into the community sharing our love for STEM and connecting students and sponsors on a personal level. We have many long term goals:

- Attaining a larger build space through long-term planning
- Improving sponsor engagement by creating new opportunities for direct collaboration.
- Increasing student and mentor retention by restructuring team leadership to harness members strengths and weaknesses
- Enhancing fundraising efforts through focused grant writing, broader marketing reach, and utilizing personal connections.
- Build great robots and great people



RISK ANALYSIS:

STRENGTHS

- Recruitment of students from across Central FL enables us to tap into multiple communities
- Strong digital presence with 5 websites and 12 social media accounts
- Memorable image and reputation
- Students develop technical and soft skills
- Our team culture that promotes STEM education and inspiration globally
- Utilization of technology and online resources
- 4-H (insurance, 503c status, etc)
- Strong core of alumni/college mentors perpetuate family atmosphere

WEAKNESSES

- A small buildspace restricts capacity & growth
- Student transportation to build
- Few committed technical mentors
- No school association for financial stability

OPPORTUNITIES

- Numerous nearby colleges and businesses to recruit mentors
- Sponsor engagement with *FIRST* and EB
- Growing *FIRST* Community
- Provide resources for families and schools to start FLL JR and FLL teams
- Strong local tech community
- International outreach expansion
- Develop relationships with government officials



THREATS

- 20 month build space lease
- Losing a large sponsor
- Hurricane/weather damage

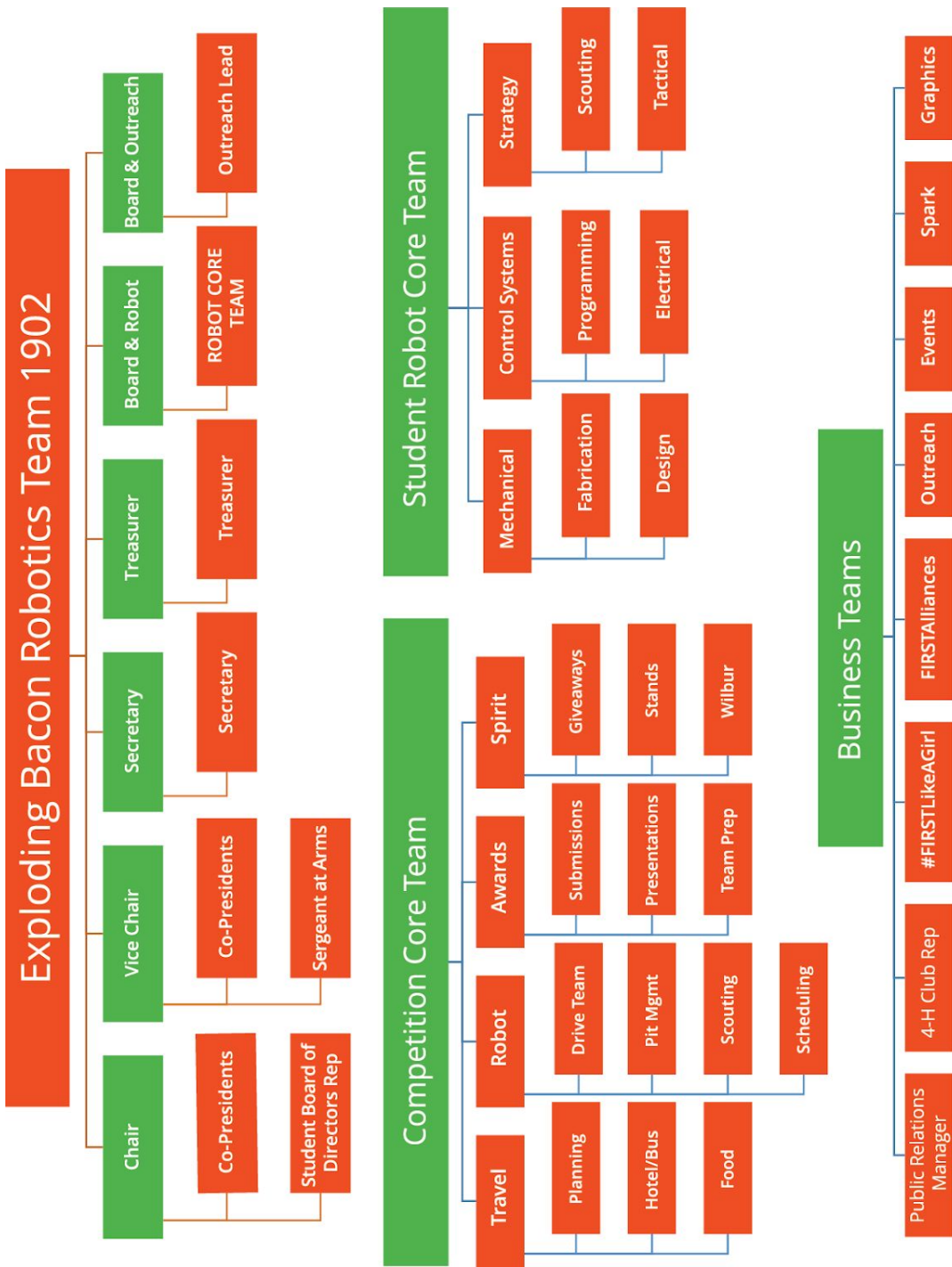
Through diversification of our sponsor base and community involvement, EB fortifies the team's long-term sustainability. EB families and mentors are committed to protecting the long-term scope by being cognizant of the impact of day-to-day operations. Our tradition of active strategic planning keeps our team focused on good communication, financial resources, and preserving community relations to promote sustainability

FINANCIAL STATEMENT:

The projected budget this year is \$70,000.00 and \$14,000 of that is registration fees for 2 regionals and World Championships without travel costs. Our engineering budget is \$15,600 for robots, tools, repairs, and prototyping. Our competition section consists of offseason and in season funds, totalling around \$7,350 for travel, pit, water, and other expenses. In 2015 we added an expense for a year-round build space signed on a 3 year lease, and recently renewed for 20 more months, expenses projected at \$21,300. Non-engineering costs such as events, merchandise, outreach, office supplies, marketing materials, spirit, food, etc and seed money is \$11,700.

Traveling is a significant investment for us running about \$600 per member for ground transportation and hotel expenses for regionals and World Championships. Members can fundraise individually or with the team to decrease their personal travel costs. We fundraise and look for additional support from sponsors to help cover some of the costs to enable more students to attend competitions. This year we have received support from Lockheed Martin for \$7,000, Best Buy, \$4,000, State of Florida \$2,500, Comcast NBCUniversal \$3,000, Disney VoluntEars \$4,000, and our student won the SolidWorks CAD competition for \$10,000. Our students raise about \$1,500 with our annual summer camp program and \$4,000 through other events and registration dues. Students and mentors are continuously applying for grants, working to ensure we meet our budget expectations each season.

Appendix 1: Organizational Charts



4-H Exploding Bacon Robotics Team 1902

Appendix 2: Projected 2018-19 Budget

Exploding Bacon Treasurer's Report
Projected budget for 2018/2019:

		PROJECTED BUDGET
Robot	22.29%	
\$15,600.90	Prep/Prototyping	\$2,000.00
	Main robot	\$11,050.90
	Tooling	\$1,000.00
	Field Pieces	\$800.00
	Robot Repairs	\$250.00
	Miscellaneous	\$500.00
Registration	20%	
\$14,000.00	Regional & World's registration	\$14,000.00
Competitions	9.57%	
Season		
\$4,000.00	Supplies / pit	\$1,000.00
	Travel - ROBOT	\$500.00
	Chairmans (peer, hall of fame, wkshp, judge pkt)	\$1,500.00
	Member travel (rental, uber, toll)	\$500.00
	Snacks - Ice - Water - extra meals	\$500.00
	Registration	\$1,600.00
Off Season		
\$3,350.00	Supplies (wkshp / awards)	\$100.00
	Travel - ROBOT	\$200.00
	Other expenses	\$0.00
	Member travel (Debt / food)	\$150.00
	Snacks - Ice - Water - extra meals	\$100.00
	HOST - BREAKFAST OF CHAMPIONS	\$1,200.00

Build Space	30.43%	
\$21,301.00	Rent	\$16,800.00
	Utilities	\$3,500.00
	Supplies a/c & repairs	\$1,001.00

Events	3.57%	
\$2,496.92	Alumni postage/gifts	\$48.95
	End of year dinner	\$400.00
	Kick Off	\$100.00
	Meetings	\$100.00
	Other (Move or rare things)	\$100.00
	Snacks-Ice-Water-extra meals	\$500.00
	Sponsor dinner	\$750.00
	Team Building (ie: Orlando dinner)	\$497.97

Merchandise	2.5%	
\$1,351.08	Pigs	\$400.00
	Pins	\$250.00
	Shirts	\$651.08
	Other	\$50.00

Outreach	2%	
\$1,300.00	Demos, Fair, OTHER	\$500.00
	Spark	\$500.00
	FLAG	\$300.00

Office	2.5%	
\$1,600.00	Printing & Office Supplies	\$400.00
	Hardware/software	\$1,200.00

Seed Money	7.143%	\$5,000.10
\$5,000.10		\$70,000.00

2018-19 Income (as of February 2019)

Lockheed Martin	\$7,000.00	BAE Systems	\$2,000.00
SolidWorks	\$10,000.00	Walt Disney World Co.	\$2,000.00
Best Buy Foundation	\$4,000.00	Materials Handling Institute	\$1,100.00
Disney VoluntEARS Team	\$4,000.00	Poteshman Family	\$1,000.00
Comcast NBC/Universal	\$3,000.00	Udowychenko Law Firm	\$1,000.00
State of Florida	\$2,500.00	FACTORY SALES	\$1,000.00
Leidos	\$2,500.00	MULITCOM INC	\$250.00
Castle Ventures Corp	\$2,500.00		

Each Summer the team works together to plan budget for the coming year. On September 1st, we submit the Budget with our renewed charter to Orange County 4-H. This budget helps us plan for our fundraising needs for the coming year and stay within our budget. Our Fiscal year runs September 1st through August 31, in conjunction with 4-H fiscal calendar.

This budget does not include monies raised separately for programs or travel.

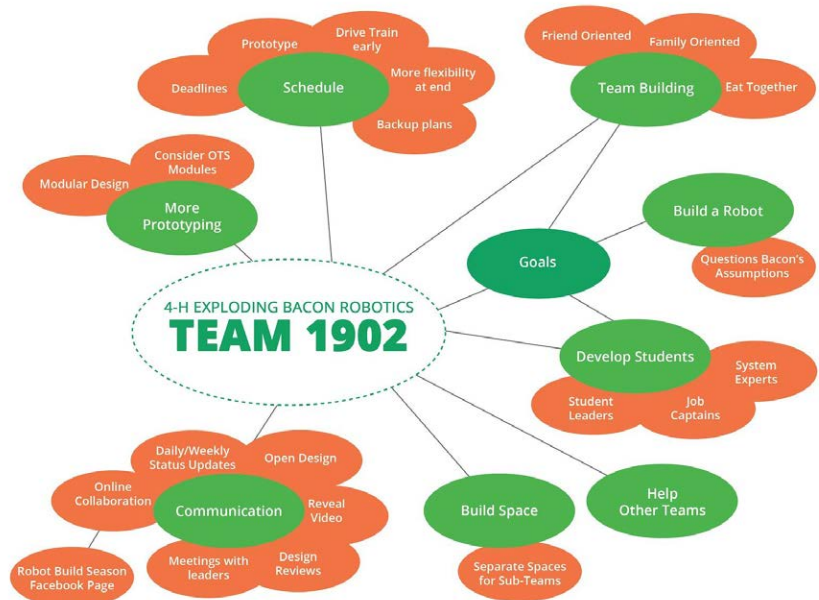
4-H Exploding Bacon Robotics Team 1902

Appendix 3: About Strategic Planning

Since the summer of 2014 Exploding Bacon (EB) has met every summer to take an intentional approach to planning our seasons. We meet for an entire Saturday during the Summer to add to our Strategic Plan, brainstorm ideas, set goals, define our values and more to propel EB into the next year and beyond.

Being a team in high demand for demos, we had become very reactive opportunities as they came along and the projects/goals that we excitedly looked forward to in May had suddenly become lost opportunities by the first Saturday of January.

At our first planning meeting we brainstormed more than 500 ideas in 15 breakout sessions.



to

Many good ideas came out of the sessions that soon came to be goals for our team. Committees were formed, and goals are being accomplished each year.

This planning session has become an annual event. We have already scheduled our 2019 Summer Strategic Planning Meeting this June. The team is making notes on the wall and looking forward to developing new ideas, evaluating how we did the past year and moving forward with a stronger, more purposefully directed team schedule and guided leadership.

Over the past five years we have achieved such goals as: securing a year-round build space, establishing sub-teams, starting an international outreach program and budgeting and planning for a practice robot.



Competitive Advantages



IMAGERY

Our brand is:

- An iconic name
- Pig on a rocket logo
- Oink Oink Boom chant
- Our mascot, Wilbur
- Pig ears
- Bright orange sleeved baseball t-shirts
- Bright orange and green robots

All of these combine to exemplify us as a team that likes to have fun, get our hands dirty with science, and help more than just bacon explode.



FEMALE ROLE MODELS

The team has had some great female role model mentors from the start including a **current 86% female board**.



4-H

- Accept all public, private and homeschool students from surrounding counties.
- Background checks and training for mentors.
- Subsidized printing and affordable vendors.
- Provides liability insurance.
- Provides additional outreach opportunities to share STEM with more students.



EDUCATION / FRC TRAINING

During the off-season our students and mentors have organized tutorials, classes, and hands-on training for areas such as programming, CAD, game strategy, machining, design, and Robots 101. In addition, safety training and machine orientation is accomplished during off-season so **students are ready for kick-off**. Our lead technical mentors create off-season challenges to help newer students learn about the basics of an FRC game. We also published this resource on our website to help other.

Technology Hack-A-Thon

Being a robotics team, technology is an important component of our success. Until June of 2017, Exploding Bacon owned 1 laptop. Now we have 7 and we realized that we had not only hardware concerns, but software and security as well.

Three teams of students, mentors and Comcast NBCUniversal employees worked together to

develop a plan for Bacon's future technology needs. Then each team presented their plan. We have pulled sections from all 3 plans to create a better future for Exploding Bacon.



Computer updates/maintenance

- Hardware Check and Repairs
- Install needed software on CAD and programming computers **DONE**
- Create a USB installer for quick installs
- Purchase missing chargers **DONE**
- Trade unused equipment
- Upgrade the existing and unused computers
- Autodesk 360 Drive - share and store CAD
- Higher bandwidth router

Organization

- Create an organizational space for laptops and power supplies **DONE**
- Move business team to the middle room, for better use of space **DONE**
- Computer tracking plan (whiteboard)
- Computer naming system that coordinates with use

Organize Team Data/Reliability

- One organized, centralized and documented system for all team data
- Shared network drive for all files not on team Google-drive (except media/large videos)
- Off-site back-ups/Cloud Storage
- Stay organized

Security

- Anti-virus software
- Renters Insurance
- PFsense firewall
- Setup Windows Group Policy on all of the team computers
- Better passwords and documentation-admin, wifi, and computer passwords
- Internal server

Long-Term Purchases/Sustainability

- Back-up drive **DONE**
- 3-4 Chromebooks for business team **DONE**
- Video camera
- Scouting tablets
- Driver Tech
- Cloud backup
- 2018 season purchase GoPro Camera
- 2019 season purchase DSLR Camera
- Upgraded internet package from ISP

Pursue Sponsors

- In-kind donations/repairs
- Internet service provider
- Laptops/Chromebooks
- Cloud data storage

Technology is an expensive and ongoing concern, a long term approach is necessary to boost and maintain team productivity, workflow and data security.

Social Media Hackathon

Bacon manages 12 social media accounts over Facebook, Twitter, Instagram and LinkedIn. We have multiple admins on the accounts from year to year to **train students to create messages and work together to create an online presence for Bacon.**

Our sponsor *Comcast NBCUniversal* has a Media Tech group in need of an event to help others and helped us to hack and improve aspects of our team the past 2 years.

In August, we worked in three teams of students, mentors and Comcast NBCUniversal employees to hack our social media efforts.

We have pulled sections from all 3 plans to **create a plan to better address our social media efforts** and have already accomplished some of our goals thanks to the support of our sponsors and mentors.



Twitter

- Follow a more regular posting schedule, ramping up to a post every day
- Include tweets more relevant to the maker community as a whole, not just the *FIRST* community
- Better utilization of optimization features such as viewer statistics and time-of-day

Facebook

- Use better audience-targeting techniques to market special events like summer camps
- Target older audiences like potential sponsors and families
- Post more regularly to maximize Facebook-specific features such as ad space

Instagram

- Best utilize medium for sharing content and generating engagement
- Best use of main account to promote our other accounts
- Improve content on stories for short-term exposure and engagement
- Use Instagram for surveys and getting public feedback



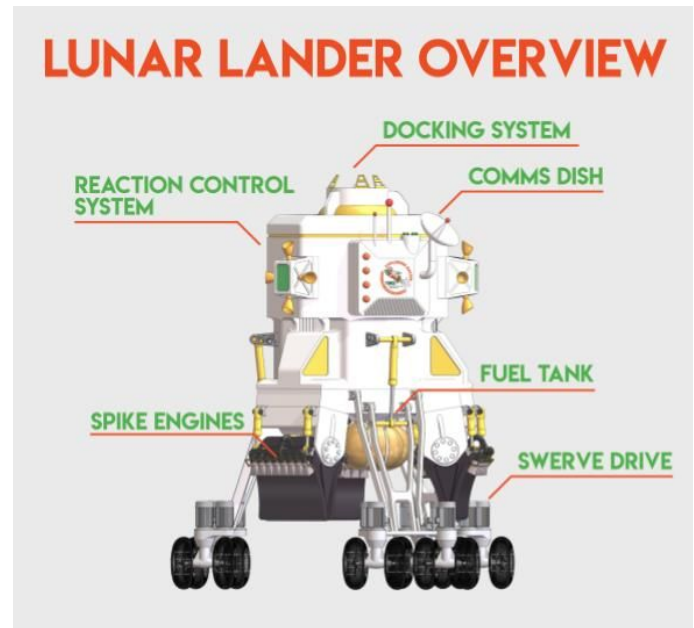
FRC #1902 xDesign Submission

4-H Exploding Bacon Robotics Team
Orlando, Florida

Design Inspiration

We drew inspiration from the space technology field. Our lander was created to resemble the

Apollo lander. We also **drew inspiration from SpaceX's Falcon 9 reusable rocket system**. The ability to reuse the lander was one goal we kept in mind during the design process. By using efficient thrusters and a standard docking system, we believe our lander can complete many missions before being retired.



Design Explanation

Our lander uses Spike engines, which use an array of small thrusters on both sides of a spike. The spike directs the thrust of the engines to a collective point at the bottom of the engine.

To **perform intricate maneuvers**, a reaction control system is used. Modules with small thrusters are evenly spaced around the perimeter, giving the lander the ability to adjust its velocity vector in any direction. Using a radioisotope thermoelectric generator allows our lander to conduct missions on the dark side of the moon and to not worry about battery weight/storage.

Our lander is **capable of docking to the International Docking System Standard (IDSS)**. This means it would be able to couple with other spacecraft or the International Space Station multiple times, reducing time, money, and resources.

3DEXPERIENCE Tools Leveraged

We used Solidworks xDesign to communicate and collaborate our design. The fact that we could access xDesign from anywhere with just a computer and the internet meant that we could achieve an **unprecedented level of efficiency with our design process**. xDesign's community has introduced us to a new family of enthusiastic people who love space technology, CAD, robotics, and helping each other solve problems. **Engaging with the xDesign community has been the most fun and rewarding part of this challenge.**



November 21, 2014

FIRST Robotics Team 1902
c/o Joyce Walters, Team Coach
Orange County 4-H Florida
5727 Bible Camp Road
Groveland, Florida 34736

Dear FIRST Robotics Team 1902:

We are pleased to inform you of Comcast NBCUniversal's support of your team for the 2014-2015 FIRST Robotics Competition season. Your team will be receiving a Comcast Foundation grant of \$3,500, which will be applied as a credit to your account with FIRST.

Your team's passion and commitment to FIRST is truly admirable, and we commend your team for being selected this year among tight competition.

Our Comcast NBCUniversal mentors look forward to an exciting season ahead together. So that we may best assist your team this year, please send us a brief assessment of the top skills areas your team needs to develop to Comcast_FIRST@cable.comcast.com. This assessment will help us to identify mentors with subject matter expertise or other resources that will be of benefit to your team.

We would like to hear about the progress of your team and your accomplishments this year. If you have any stories, pictures, or videos that showcase the success of your team, please forward them to Comcast_FIRST@cable.comcast.com.

Congratulations on your grant and keep up the great work.

Sincerely,

Charisse R. Lillie
Vice President of Community Investment, Comcast Corporation
President, Comcast Foundation

Beth Colleton
Senior Vice President of Corporate Social Responsibility, NBCUniversal



2019

Chairman's Essay Submission

*Submission at the
Palmetto Regional
and Orlando Regional*

One Mission

4-H Exploding Bacon (EB) Team 1902 was created in 2006 to provide an opportunity for any student without access to a robotics team. Our mission has always been about building robots & helping people. We start each year with a goal to design & build a season-ready robot, but it transforms into so much more as we guide our students to be the next generation of STEM leaders, build an inclusive family, forge valuable relationships with our local & global communities & create a platform for FIRST sustainability. By staying true to the values of FIRST, we work towards our One Mission of magnifying the impact of FIRST teams into one powerful force for global change.

The Team

In 2014 we were working out of a mentor's house, overwhelmed by an increasing demand for outreach. Our original aim to be strong advocates for FIRST in our community led to our determination to have a deliberate & sustainable approach to changing the culture. Realizing that our resources were limited, we focused on finding ways to multiply the impact each team member could have by initiating strategic planning. This annual meeting serves as a launchpad for our endeavors, enabling us to set & accomplish goals such as funding a practice robot or revitalizing our team leadership. With our organizational partner 4-H, local & corporate sponsors, active college mentors & strong family atmosphere, we've overcome our struggles of acquiring a build space & instilling a sense of community despite our vast differences & distances. Whether it's through writing grants, representing our sponsors at demos, or organizing a thank-you brunch, our students fiercely advocate for increased FIRST support through sponsorships. We started the team with one student in mind, but now we span an area of 1,275 sq miles serving 39 homeschool

& traditional students across 4 Central FL counties, providing opportunities for many without direct access to a team.

Local Outreach

It all started with a few science experiments, a robot & some kids with orange sleeves partnering with a local restaurant & elementary school. Over time our students have laid a foundation for our reputation & spread our passion for STEM & FIRST. Demonstrated by the 6000+ student volunteer hours garnered since 2014, EB students sustain our outreach legacy with a strong community presence geared towards anyone & everyone whether it's a farmer at the 4-H FL Fair or a 4 yr-old at the Orlando Science Center.

Since then, we've forged connections with those who could help amplify our impact such as local tech groups, NBCUniversal Media-Tech's Hackathon & AT Makers' Adaptathon. Beyond our work with the Boys & Girls Club, NASA's Dreamflight & Maker Faire, we've initiated new govt outreach by collaborating with our State Senator & Representative to continue their support for a FL Bill that funds FRC registrations.

After an amazing experience presenting with Don Bossi at the 2017 CXO Summit & Dean Kamen at the 2017 Defense Manufacturing Conference, FIRST leveraged our experience & invited us again to present with Mr. Bossi to Fortune 500 CEOs at the Material Handling Institute Global Conference. With students dedicated to engaging others in STEM & a desire to make a sustained impact, EB has built a tangible enthusiasm for FIRST in our community.

After moving through 10 build spaces, we're back at our roots: down the street from the same restaurant & Cheney Elementary.

Image

Establishing a memorable presence in a city like Orlando was challenging but necessary to improve recruitment & retention of students, sponsors & mentors. From the moment our iconic pig on a rocket was drawn on a napkin & the infectious Oink Oink Boom was first cheered, we learned what an approachable image is capable of communicating. We're honored to see our passion recognized through Regional & World Champs Imagery Awards, leading us to do what we do best: help others. With our Big Bacon Theory of Image & Marketing (BBTIM) workshop, we've created resources for teams to further promote the values of FIRST & multiply their impact. We started by helping rookie teams define their unique image & now after presenting 26 times (8 at Worlds), BBTIM has evolved for all levels of FIRST to promote sustainability & increase support for FIRST everywhere.

Spark

After starting our annual NXT Summer Camps in 2012 & distributing hundreds of Exploding Science Resource Books at World Champs, we discovered a limitation: we could only travel so far. Our aspiration to do more transformed into 133 Spark kits impacting countless kids in 43 countries. The shoebox-sized science kits maximize simple reusable resources to teach the principles of STEM with hands-on activities, an extension & culmination of our local outreach work. Whether it was through a pilot program with Tulane University that led to our first major U.S. school integration, a partnership with FIRST Global Competition teams resulting in a 150% growth in countries, or a student-led service trip to India giving EB a deeper understanding of the direct impact on each child, we've always worked to make sure Spark was fulfilling its initial mission & intended impact: providing opportunity. Spark isn't just an opportunity for children worldwide to learn problem-solving skills; it's transformed FIRST communities by providing a sustainable & replicable program where teams can jumpstart their own outreach. In addition to taking kits back home, several FIRST teams have translated the instruction manuals into 5 languages. We are assisting teams from 4 countries with mass offsite Spark creation projects. Countless letters, pictures & videos from the kids & educators impacted by Spark motivate our students to continue fundraising & building kits to inspire the next STEM leaders.

#FIRSTLikeAGirl

In 2016, we created the #FIRSTLikeAGirl movement to improve STEM culture by sharing the stories of relatable role models in FIRST. We started with our local community, targeting FLL events to combat the significant drop in female STEM participation during middle school. It started as a simple picture with a hashtag, but now it's 1M+ impressions on thousands of photos with girls & their inspiring mentors. It began as 1 team trying to disrupt the culture, but now it's 1,092 teams of all levels from 57 countries making it loud. It was 1 button on a backpack, but now it's 20,000+ buttons, tattoos & signs distributed everywhere from Texas to Japan. It was just a Youtube video explaining one Bacon girl's journey through robotics, but now it's 70+ videos & a recognized project of the broader FIRST community.

The long nights of pressing pins & designing graphics have translated into support from Fortune 500 CEOs & #FIRSTLikeAGirl Workshops. Through our World Champs #FIRSTLikeAGirl Panels led by FIRST Diversity & Inclusion, new blog interviews & collaborative impact research, the humbling feedback we've received has revealed the power of the girls who identify with & embrace our community overcoming social stigmas. Beyond an article for Amy Poehler's SMART Girls & support from FIRST itself, the formidable, heartwarming comments from girls around the world have broadened our idea about the true definition of an inclusive community & what it takes to make it better.

FIRSTAlliances

To grow our programs, we collaborated with other teams & through our conversations, we realized the need for more direct recognition of FIRST team-created programs. This dialogue inspired EB to create FIRSTAlliances, a platform for all levels of FIRST regardless of age, skill level, or location, fostering connections by highlighting their strengths, promoting their initiatives & creating a hub for collaboration. The site benefits FLL as it provides the only web presence for 41% of the teams registered & supports FIRST as a whole by unifying our global impact. With 162 teams from 13 countries listing 53 programs, FIRSTAlliances has challenged our students to improve real-world skills through its strategic planning, Python coding & social media management developing today's STEM innovators.

FIRST Relationships

EB was born from the collaboration of FL FIRST alumni. Since then, it has been our mission to support the same FIRST community that gave so much to us. Beyond sharing a wide variety of resources, hosting Official FRC Kickoffs with wksps & hosting FLL/FLL Jr. events, EB co-created & launched our inaugural offseason 2018 Pre-Season Expo. Working together towards a stronger, more unified FIRST in FL, teams presented wksps & promoted the progression of programs to elevate the sustainability & impact of local teams.

We realized that the strength of the FIRST community translates beyond barriers & borders. When our Dutch friends travel to Orlando, we share our homes & build space, help fabricate parts & have dinner together. Whether it's scheduling rookie help time at events, bringing batteries for our Israeli friends, or even having an EB student translate for Chinese teams & judges, teams across the globe know us as a supportive member of the FIRST network.

To strengthen our inclusive programs like #FIRSTLikeAGirl, Spark & FIRSTAlliances, we rely on the collaborative network of FIRST teams & strongly advocate for the direct progression of FIRST programs to build a stronger FIRST destined to fulfill our One Mission.

#TogetherWeInspire

The ultimate resources in FIRST are the participants who inspire everyday. Our Mission to combine these efforts allows us to magnify our impact into a powerful force for cultural change. Spark provides opportunities for hands-on exploration, #FIRSTLikeAGirl enables us to empower females & FIRSTAlliances unifies efforts of teams around the world.

Exploding Bacon works tirelessly to make a direct impact that is amplified through our programs, rippling out to leave a legacy of global collaboration, opportunity & inspiration. Alone we aspire, but alongside FIRSTers everywhere #TogetherWeInspire.

2019 Executive Summaries

1) Briefly describe the impact of the *FIRST* program on team participants within the last five years.

- 100% of EB students develop diverse skills (grant writing, communication, leadership, technical) & pursue higher education & jobs at companies like Lockheed, Disney, Microsoft & Apple
- Creates supportive network as members explore new opportunities: presenting at CXO Executive Summit & winning SOLIDWorks National Design Challenge
- Long-lasting, tight-knit bonds developed through family dinners, game nights, & post-high school support
- 65% of current EB students compete in/mentor FTC & FLL teams

2) Describe the impact of the *FIRST* program on your community within the last five years.

- New govt. advocacy with State Senator & Representative to sustain FIRST funding
- Supporting FIRST inspiration in our community through sustained relations with STEM & Agriculture youth orgs
- EB's enduring partnership with 4-H created a K-12 pipeline of FIRST teams for FL youth
- 6000+ EB student volunteer hours through 200+ demos since 2014 to attract new audiences to FIRST and pay forward their opportunities
- EB alumni have established FIRST Alumni Clubs at 3 FL universities: UCF, UF, & ERAU

3) Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, & creative

- Created a replicable & scalable outreach program for other FIRST teams by creating & sending 133 reusable Spark science kits to underserved kids in 43 countries
- Capture the attention of local & international audiences with our unique pig on a rocket brand
- #MakItLoud with millions of impressions with 5 websites, 12 social medias, industry magazine articles, NBCUniversal Hack-a-thons & local TV segments
- Spread FIRST with new global audiences with our 75 #FIRSTLikeAGirl videos & media campaign

4) Describe examples of how your team members act as role models & inspire other FIRST team members to emulate.

EB Students:

- Created #FIRSTLikeAGirl, a platform to showcase FIRST relatable role models; 12 EB members made videos, empowering girls to be confident
- Volunteer 1000s of hours: assist, mentor, & start 102 FIRST teams & volunteer at FIRST events
- Innovate tools for the FIRST community: official FTC Robot Inspection app, FRC simulator, Chief Delphi Logo, & FIRSTAlliances Directory
- Create Robot, Awards, & NEMO resources for FIRST teams through workshops & support: online, in-person & at events

5) Team's initiatives to help start or form other FIRST Robotics Competition teams.

- Taught sustainability techniques to 200+ teams who attended our 26 Imagery & Marketing workshops, 8 of which were held at World Champs
- Supplied Exploding Science books to ~1000 teams (many rookies) sharing entrepreneurial techniques & summer camp plans
- EB provides a team model by partnering with 4-H, a 501c3 youth-serving org, & bridging them with FIRST-specific project books
- Partner with FIRST reps at demos to start & connect more local teams
- Started FRC 7592, first FIRST team in St. Kitts

6) Describe the team's initiatives to help start or form other FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge).

- Shared FIRST at UCF Teachers Demo, inspiring them to start new FIRST teams
- Equipped EB Members to form 4 FLL, 1 FTC, & 1 FRC teams
- Shared our Imagery & Marketing workshop at the FLL Coaches Conference, promoting sustainability
- Host annual EV3 summer camps for 8-12 yr olds, prompting many to join/create FLL teams
- Our website FIRSTAlliances promotes communication within FIRST & has specifically been utilized to connect people in the community looking to start new teams with those who can help

7) Describe the team's initiatives on assisting other FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge) with progressing through the FIRST program.

- This year, we assisted 43 FRC, 3 FTC, 2 FLL, & 2 FLL Jr. teams & mentored 3 FRC, 5 FTC, & 5 FLL teams
- We promote the progression of FIRST programs by hosting, running, & volunteering at FRC kickoffs, FLL Events, & FLL Jr. Expos
- EB students developed FIRST Alliances to be a website for all levels of FIRST that connects FIRST teams with experienced teams by displaying resources, collaborating on programs, & providing guidance
- Preparing for our 2019 Offseason Comp. to sustain FIRST in FL

8) Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge).

- Mentor via video calls, emails, & Behind the Lines, an FRC YouTube show to share knowledge & experience
- New #FIRSTLikeAGirl Ambassador program with 18 teams from 7 countries diffuses campaign, encouraging FIRST teams to make an impact everywhere for younger levels of FIRST
- Created & hosted new 2018 pre-season expo with FRC 5816, providing opportunity for teams to present 16 workshops; partnered with teams of all levels to present unified FIRST in FL to media, potential sponsors, & community

9) Describe your Corporate/University Sponsors.

- Maintain long term sponsors like Lockheed Martin, Comcast NBCUniversal, & BAE Systems, & actively forge new ties with companies like Best Buy, Leidos, MHI, & Solidworks
- Beyond pursuing corporate, local, & family partnerships, we explore new endeavors: grant writing, professional conferences, & 10k grand prize award through xDesign Challenge
- 4-H is a strong foundation for EB connecting a traditionally agricultural youth development program to robotics, exposing new audiences to FIRST & STEM

10) Describe the strength of your partnership with your sponsors within the last five.

- Team sustainability requires a diverse sponsor base. Our partnerships consist of in-kind donations & monetary funding, fueling our team
- We continually send updates, host an annual sponsor brunch, & represent sponsors on our team shirts, robot, pit, & website

-EB attends numerous corporate & professional conf. through our sponsors to represent both them & FIRST

-EB exposure turns sponsors into FIRST advocates as they host events such as FLL competitions, expanding the reach of FIRST beyond EB

11) For FIRST Robotics Competition teams older than 5 years, briefly describe your team's broader impact from its inception.

-Our 14 years of strong imagery & outreach legacy developed roots in our local community, providing a foundation to grow our enduring partnerships & promote FIRST

-Our core of inclusion unites all levels of FIRST beyond team boundaries & country borders towards One Mission of inspiration

-Providing outreach opportunities for other teams: partnering with 24 international FIRST teams to distribute Spark kits & building an inclusive community with FIRSTLikeAGirl where every voice can make an impact

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

-FIRST is the most unorthodox method of teaching a student how to make an impact in the world.

Engineering principles are taught in a fun, inclusive, time-intensive, & creative way. Building a robot in 6 weeks is no easy task but inspiring an entire generation of innovators is significantly more difficult & impactful. FIRST somehow manages to be different than any other program, encouraging students to gain confidence to pursue any future profession with the support of a second family.

-FUN!!!

13) Briefly describe other matters of interest to the FIRST Judges, if any Other Considerations.

-Annual Strategic Planning enables reevaluation of team, SWOT, mission statement, & goals

-Connect with organizations & teams from 57 countries through #FIRSTLikeAGirl

-86% female BOD

-Supported 2017 & 2018 FIRST Global Competition events, sharing 100s of #FIRSTLikeAGirl buttons & 45 Spark kits

-Successfully built first robot mechanism for off-season competition to prepare rookies for 2019

-Honored to see FIRST support for #FIRSTLikeAGirl expand to 2019 FTC Game Animation & FIRST Champs Panels