



FIRST LEGO League Tournament

at Arizona State University
inspiring students to experience
the exciting world of STEM

sponsorship guide

ASU IRA A. FULTON SCHOOLS OF
engineering
ARIZONA STATE UNIVERSITY

Dear Colleague:

I am excited to share that for the seventh year in a row the Ira A. Fulton Schools of Engineering will host Arizona *FIRST* LEGO League (FLL) State Championship Tournament at Arizona State University.

If you are not familiar with Arizona FLL, I encourage you to review this packet to learn how you can participate in this event that impacts the lives of over 2,000 young students across Arizona.

FIRST LEGO League is an exciting and fun global robotics program, designed to fuel an enthusiasm for discovery of the basic principles of science, technology, engineering and math (STEM) in children, ages 9 to 14.

This year, students will be asked to imagine the future of learning for their FLL projects. The 2014 challenge — *WORLD CLASS* — asks students to redesign how we gather skills and knowledge for the 21st century. Engaging students in teaching is a great way for them to learn while practicing the FLL core values of friendly competition, teamwork and professionalism.

We cannot deliver this important program without the support of generous sponsors. For our corporate partners, this is not only a chance to reach a wide audience, but also an inspiring opportunity to see the passion for engineering that this event ignites in students.

Sponsors have an excellent opportunity to build their brand and expose it to our college community of over 15,000 undergraduate students, many of whom volunteer at this annual event. Many of our students, faculty and staff are engaged in this effort and the event is highly publicized through the local and regional news media. The event introduces your brand to students, parents and elementary school teachers across Arizona.

I hope that you will consider becoming an Arizona FLL sponsor at a level that is right for you or your organization.

Details on sponsorship are enclosed. You can also contact Margo Burdick (margo.burdick@asu.edu), to discuss sponsorship opportunities. She will follow-up in the next two weeks to answer any questions that you might have. On behalf of everyone at the Ira A. Fulton Schools of Engineering, we appreciate your support.

Sincerely,



James S. Collofello
Senior Associate Dean and Professor

sponsorship opportunities

The Ira A. Fulton Schools of Engineering at Arizona State University is the affiliate partner for the Arizona *FIRST* LEGO League (FLL).

Your sponsorship provides invaluable support to Arizona FLL teams for training and materials, as well as for their exciting season-culminating tournaments – “sporting events for the mind!”

Your support of Arizona FLL is an investment in the future by increasing the number of much-needed professionals in the fields of science, technology, engineering and mathematics.

For more information on Arizona FLL, visit: azfll.com.

The Arizona State University Foundation is a 501(c)3, nonprofit, tax-exempt organization.



sponsorship levels

| | |
|--|---|
| Platinum Sponsor \$10,000 | Covers costs associated with State Championship Tournament including volunteer appreciation, robot game supplies and materials, trophies and medals for teams, audio/visual rental and staffing, print materials, state championship t-shirts |
| Gold Sponsor \$5,000 | Covers costs associated with one qualifying tournament including equipment rental, robot games supplies and materials, volunteer appreciation, trophies and medals for teams, venue costs including security and janitorial fees, print materials, volunteer t-shirts |
| Copper State Team Sponsor \$5,000 | Covers costs associated with the travel and registration fees incurred by one team representing Arizona in the FLL World Festival, the North American Open Championship, European Open Championship, or Legoland Invitational Tournament |
| Silver Sponsor \$2,500 | Covers costs associated with season kickoff event including equipment rental, robot game supplies and materials, volunteer appreciation, venue costs including security and janitorial fees, print materials |
| Bronze Sponsor \$1,000 | Covers costs associated with one AZ FLL rookie team |
| Friend of Arizona FLL Sponsor \$250 | Contributes to costs associated with three field set up kits, one team registration fee, two team tournament fees, volunteer lunch for one qualifying tournament, trophies and medals for one qualifying tournament |

sponsorship benefits

* Plaque of appreciation presented at the regional qualifying tournament award ceremony, not at the state closing ceremony

| | Platinum | Gold | Copper | Silver | Bronze | Friend |
|--|----------|------|--------|--------|--------|--------|
| Sponsor name on all tournament promotional materials and signage | ● | ● | | | | |
| Plaque of appreciation presented at closing award ceremony * | ● | ● | ● | ● | ● | |
| VIP name tags, introduction and seating at welcome ceremony | ● | ● | | | ● | |
| Sponsor representative invitation to present a trophy engraved with sponsor name at award ceremony* | ● | ● | ● | | | |
| Recognition in State Championship tournament program as Arizona FLL sponsor | ● | ● | ● | ● | ● | ● |
| Sponsor logo and pre-approved web link posted on Arizona FLL sponsor page at azfll.com and on the AZ FLL Facebook page | ● | ● | ● | ● | ● | ● |
| Sponsor logo displayed on scoring screen of State Championship tournament | ● | | | | | |
| Sponsor logo on volunteer t-shirt | ● | | | | | |
| Sponsor logo on State Championship tournament banners | ● | | | | | |
| Sponsor name and logo on publications and shirts for a single team | | | | | ● | |

by the
numbers

2013 sponsors

Arizona State University / Intel / Time Warner Cable
Gary & Diane Tooker Family Foundation / Raytheon / GM

2,000 students
have participated in AZ FLL

300 teams
participated in regional tournaments in 2013

400% increase
in student participation in AZ FLL since 2008

FIRST LEGO League outreach flourishing under ASU's leadership

In the six years since Arizona State University's Ira A. Fulton Schools of Engineering took the state's *FIRST* LEGO League under its wing, the program has evolved from a fledgling student competition into a far-reaching education outreach community.

The recent 2013 state championship tournament at ASU's Tempe campus featured 56 top-performing teams of elementary- and middle-school-age students selected from among the more than 300 teams that competed in regional tournaments – a nearly four-fold jump in the number of teams involved in the program since ASU's engineering schools took ownership in 2008.

The more than 2,000 young students Arizona *FIRST* LEGO League now reached are being supported by increasing ranks of teachers, coaches, mentors and industry sponsors, as well as volunteers from ASU and various middle schools who staff the tournaments.

Focus on 'core values'

FIRST (For Inspiration and Recognition of Science and Technology) was founded by well-known inventor Dean Kamen. The international organization develops programs aimed at motivating youngsters to pursue opportunities in STEM fields (science, technology, engineering and mathematics) and to start teaching the skills they need.

In *FIRST* LEGO League competitions, teams are scored on their design, construction and programming of small robots made from LEGO MINDSTORMS robotics kits. The robots must perform specified technical missions.

Teams are also evaluated on the creativity of their proposed solutions to a particular societal challenge. This past year's challenge theme was "Nature's Fury." Teams had to select a specific region in the world that has been affected by natural disasters and come up with ideas for how those places can better prepare for and cope with the types natural disasters that impact their communities – tornadoes, hurricanes, earthquakes, tsunamis and similar destructive events.

Students are judged on their technological and problem-solving skills, and on how well they exemplify *FIRST* LEGO League's "core values" of teamwork, respect for fellow competitors, friendship and sharing, and valuing the joy of learning and discovery.

Building a community

The Arizona program is helping young students achieve those goals by fostering a fun-focused spirit and a family-oriented environment that is especially reflected in the rousing atmosphere of the annual state championship day each December.

"The kids are excited and having fun, but inside that fun are lessons about the whole engineering design process, about teamwork, leadership and communications skills, research and presentation skills," says Stephen Rippon, an assistant dean who leads the student outreach and retention efforts for the Fulton Schools of Engineering.

The almost 500 middle school students on the teams at the state tournaments are cheered on by parents, grandparents, siblings and friends, while professional engineers, volunteers from industry and ASU students, staff and alumni serve as competition judges, or in various roles coordinating and staging tournament activities.



The *FIRST* LEGO League program “has given us a great opportunity to build a community that’s engaging schools throughout Arizona and has dedicated volunteers and supporters who are getting involved year after year,” Rippon says.

Spreading the love of engineering

ASU chemical engineering grad student Jared Schoepf and biomedical engineering senior Brittany Duong helped open the 2013 state tournament with a presentation about the adventure of engineering and the community service projects inspired by their engineering education.

“The reason I did this is because when I was younger someone came to me and talked about what was awesome about engineering,” Schoepf says. “I wanted to do the same for these kids, to encourage them about the things they could someday learn to design and build.”

Duong, who is also an honors student and recipient of the Robert H. Chamberlain Memorial Scholarship, says her parents told her to pursue engineering studies, even though “when I first started college I really didn’t know what engineering was.”

Had she not gotten on track so late, “there was so much more I could have done by now,” she says. So she wanted to help give the *FIRST* LEGO League students the jumpstart she never had and to “pass on the excitement and love for engineering I have,” she says.

Among the dozens of volunteers working at this year’s state tournament was Rick Hudson, a past president of the Fulton Schools of Engineering alumni chapter and an electrical engineer for the Salt River Project utility company. He’s motivated to participate for the thrill of helping youngsters “who are already doing so much more than I did when I was their age. I think about what incredible things they might achieve some day because of what they are accomplishing now.”

An energizing experience

Volunteer Chelsea Mann, who recently graduated with a degree in civil engineering, says she had only very limited exposure to engineering while in high school. “It’s really cool to see the students get inspired by engineering and to be doing some amazing things at their young age.”

Mann, who worked as an assistant for Fulton Schools’ recruiting office, will be busy with more studies and research as she pursues an engineering master’s degree at ASU, but she plans to continue devoting time to the *FIRST* LEGO League state tournament.

Jessica Loya has been a tournament volunteer for the past four years and plans to continue in the future. She recently graduated with a degree in business communications, plus a minor in psychology.

“I think outreach is one of the most important parts of a college experience. And it’s been worth it,” Loya says. “These kids have so much energy and that energizes us as volunteers.”

The experience with *FIRST* LEGO League competitions “has built on what I learned” in undergraduate business and psychology studies, she says, “in everything from seeing all the administrative work and planning that’s involved in putting on the tournament to getting an understanding for how kids learn to communicate and work together.”

Devoted volunteers

Rick Kale, who competed in robotics events in high school and just graduated with a degree in aerospace engineering, was a volunteer for a fifth year at the 2013 state championships and intends to continue helping with the logistics of the event as an ASU alumnus. “It’s helped to hone my organization and time management skills,” he says, “and it’s just a lot of fun.”

Computer systems engineering major Sami Mian is a veteran robotics competition volunteer in only his sophomore year.

He was a member of a *FIRST* Robotics team in high school and participated in a summer robotics camp at ASU, and later became a teaching assistant for the camp.

Mian is now founder and president of the ASU Sun Devil Robotics club. He has been a judge and a planning assistant for *FIRST* LEGO League regional and state tournaments. He now trains new volunteers and judges.

“I love doing this,” Mian says, “because when I was doing robotics competitions as a kid I remember how much it meant to me that people devoted their time to it.”

He also views the experience as an opportunity for students to connect and network, as well as “give back to the community, which is something I think all engineers should do.”



Opportunity to succeed

Don Wilde, an Intel engineer who helps lead the company's efforts in Arizona to support STEM education, particularly the *FIRST* LEGO League, was at this year's tournament to cheer on a team of girls from the Salt River-Pima Maricopa Indian Community that he had helped to mentor.

The team reflects what the program is doing to open opportunities in underserved communities, Wilde says.

"These kids are growing up in an environment that has not always had the resources to give them opportunities to succeed," he says.

In only its second year of competing, the team performed well enough at a regional event to compete at the state tournament.

"To see them come to ASU and be proud of what they are accomplishing, and to see them here with their parents watching, this is great," he says.

Turning lives around

The outcome of participation in *FIRST* LEGO League has been equally positive for many other Arizona youngsters, says Fredi Lajvardi, the lead mentor for the Falcons robotics teams at Carl Hayden High School in Phoenix.

Falcons teams have over the years won three regional *FIRST* Robotics Competitions at the high school level. One team gained a measure of fame in 2004 by besting a team from the Massachusetts Institute of Technology in the finals of a student underwater robotics competition.

The Falcons team began hosting the *FIRST* LEGO League competitions for Arizona grade schools until the events outgrew what the team could handle. That's when they called on ASU to take over operations.

Lajvardi has seen the LEGO program grow from its beginning in Arizona more than a decade ago, when in its early years it was drawing only about 30 teams. He says he's been thrilled to watch its "phenomenal" growth under ASU's management and to see the caliber of the competition improve.

More than that, he says, robotics competitions "have been one of the major factors" enabling many more youngsters to come out of Arizona high schools with more solid basic training in applying STEM skills.

At Carl Hayden High School, he says the result is that most students involved in robotics teams are going to college or the military, and many have earned degrees in engineering and are working in high-tech industries.

All in all, he says, the Arizona *FIRST* LEGO League "has turned lives around."

That's happening because the robotics programs "are teaching the skills you need in a real job," says Allan Cameron, a retired Carl Hayden High School computer programming teacher who joined with Lajvardi in mentoring robotics teams.

"When you're on a team that's competing, you have to make a commitment. People are counting on you to work. You have to learn the things you need to know to do a job and complete a project," Cameron says.

Expanding horizons

Emma Galligan's experience is an example of how the values being taught through *FIRST* LEGO League are starting to be passed from one generation of youngsters to the next.

Galligan, 13, was a member of Team Toxic at the Sonoran Science Academy in Tucson last year and the previous year. Last year the team won a top award at the *FIRST* LEGO League state championship. The year before the team's performance at the state tournament earned it a trip to the *FIRST* LEGO League World Festival.

“The *FIRST* LEGO League program has given us a great opportunity to build a community that’s engaging schools throughout Arizona and has dedicated volunteers and supporters who are getting involved year after year.”

This year she helped mentor her younger Team Toxic schoolmates. "It's so much fun. I think of them as my little family. I just try to teach them everything I know," she says, "and it's so great to see them perform better than I ever have."

She is also preparing her "little apprentice," 8-year-old sister, Miranda, to begin her venture into *FIRST* LEGO League next year.

She plans to advance to a high school *FIRST* Robotics team in the near future, but her competitive experiences have already given her skills she will need to pursue the medical career she is considering.

"A lot of my knowledge about science has come from this," she says of her work with the robotics teams. "It has definitely expanded my horizons. I am more outgoing than I ever was and I'm good at talking to adults. I'm just more confident around other people."

Through her involvement with *FIRST* LEGO League, Galligan says, "I learned how to research things and how to experiment. That's taught me stuff I'll probably use the rest of my life."

Poised to flourish

FIRST LEGO League's goal is to nurture not simply future generations of technology-savvy professionals, but to train students in problem-solving skills, and in "the 'soft skills' such as cooperation and public speaking that they can use in any career field or any other pursuit in life," says Jennifer Velez.

Velez is the K-12 outreach senior coordinator for the Fulton Schools of Engineering and manages the state's *FIRST* LEGO League program as the Arizona operational partner for the *FIRST* organization.

With the teachers, coaches, mentors and parents at the dozens of schools throughout Arizona currently involved in league activities — along with ASU faculty, staff and students — the program has established a community of more than 1,000 volunteers, Velez says.

The program is being further strengthened by commitments from industry and philanthropic sponsors, Intel, the Tooker Foundation, Raytheon, General Motors and the Time Warner Cable "Connect a Million Minds Project."

FIRST LEGO League "is going to grow and flourish in Arizona," Velez says, "and keep providing invaluable learning experiences to our children."

The world needs more engineers. At the Ira A. Fulton Schools of Engineering, we believe that exposing students to engineering at a young age is the best way to supply the world with the brightest, most passionate engineers. Through the Arizona *FIRST* LEGO League sponsored by Arizona State University, hundreds of youths across Arizona – many of whom may not yet be exposed to career opportunities in science, technology, engineering and math (STEM) – get to learn about these exciting fields through a fun and educational hands-on tournament. This exciting event is helping shape the future of Arizona and impacting the lives of future engineers.

We hope that you join us in inspiring Arizona students to learn more about STEM careers through participation in Arizona *FIRST* LEGO League.

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