



FOR INSPIRATION AND RECOGNITION OF SCIENCE & TECHNOLOGY

NEWS

2005 *FIRST* Championship



Over 9,000 young people from 19 countries
465 robots
5,000 mentors
500 event volunteers
3 competitions
Georgia Dome, Atlanta

[Photo Gallery](#)

FIRST News



FIRST and RadioShack® introduce
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FIRST LEGO® League

[Register now for 2005 Ocean Odyssey season](#)



FIRST and New Jersey Institute of Technology
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Spotlight on *FIRST* Champions

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Spotlight on *FIRST* Suppliers

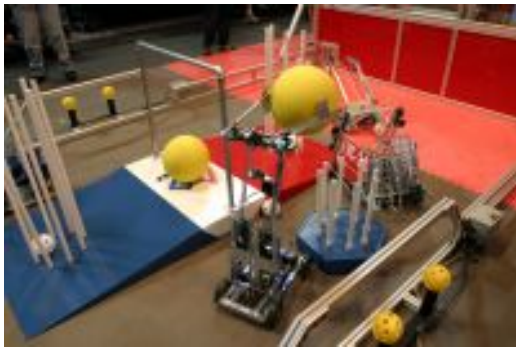
[Kit of parts donors realize impact of their generosity](#)

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FIRST and RadioShack introduce *FIRST* Vex Challenge

Demonstration tournament a resounding success



Partnering with Official Sponsor, RadioShack, the new *FIRST* Vex Challenge (FVC) was introduced at the 2005 *FIRST* Championship. 52 teams competed enthusiastically in a demonstration tournament, showing their skills with robots created using the [Vex™ Robotics Design System](#). The level of excitement was high - on the playing field, in the FVC pit area, and at the Friday-night Vex Celebration where awards were announced before a crowd of over 5,000 fellow *FIRST* participants.

The true spirit of *FIRST* was alive and well as veteran *FIRST* teams welcomed and mentored FVC newcomers. FRC Team 341, Wissahickon Robotics, was the first to step up to the plate, sending a member of their team to Singapore to help FVC Team 46 "Live Wire" of Chij Secondary School and FVC Team 52 "Bolts and Nuts" of Millennia Institute/Cedar Girls Secondary School prepare for the competition. What a great example of sharing knowledge and experience with rookies! When Teams 46 and 52 were jointly awarded the *FIRST* Vex Challenge Award, a peer- and formal-judged award recognizing excellence in robot design and teamwork, Team 341 lined up at the base of the podium to congratulate their new friends with hugs and high-fives.

Through the new lower-cost, more accessible *FIRST* Vex Challenge, we are able to broaden our reach and introduce even more youth to the power, excitement, and fun of science and technology. A *FIRST* Vex Challenge pilot season will begin in October 2005 and culminate at the 2006 *FIRST* Championship. Stay tuned for further details. To be added to our FVC mailing list,

please send e-mail to firstrv@usfirst.org.

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FOR INSPIRATION AND RECOGNITION OF SCIENCE & TECHNOLOGY

NEWS



Sending out an S.O.S. to *FIRST* LEGO[®] League teams

Register now!

In 2005, *FIRST* LEGO[®] League travels into the depths of the ocean to explore the mysteries that lie below. The oceans are of vital importance to the health of the Earth and to everyone that lives on this planet; yet only 1% of these magnificent bodies of water have been studied.

Oceans provide inspiration, fun, and food. They absorb carbon and generate oxygen, profoundly affecting the global environmental system. A distress call has been issued to *FIRST* LEGO League teams around the world to find solutions that will sustain the health, biodiversity, and productivity of the world's oceans for present and future generations.

[Register now](#) for the 2005 Ocean Odyssey Challenge

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***FIRST* and New Jersey Institute of Technology**

University partnerships: A win-win for all involved

There is a long history of extraordinary support of *FIRST* by institutions of higher learning that share our vision of transforming culture by inspiring young people to appreciate science and technology.

In the community of Newark, NJ, a large city with high enrollments of low-income and minority youth, [New Jersey Institute of Technology \(NJIT\)](#) serves as a bright example of how universities can support the *FIRST* mission and positively impact their local school districts, while strengthening their own student recruitment and retention, community relations, and preparation of future engineers through leadership, project management, and community service experiences.

NJIT/*FIRST* partnership highlights include:

Outreach to under-represented students

- Active support of 9 Newark high school teams in the *FIRST* Robotics Competition (FRC) and 20 middle-school teams in *FIRST* LEGO League (FLL)

Increased student recruitment

- Admission of 40 students from Newark FRC teams since 2000
- Offering of scholarships exclusively to graduating members of Newark FRC teams (5

merit scholarships in 2005, each having a four-year value of up to \$10,000)

Translation of classroom learning into real-world application and experiential learning opportunities

- Technical mentorship by engineering students and staff and machine shop support for Newark high schools participating in FRC
- In-class technical support, student mentoring, and help-clinics for Newark teachers and students participating in FLL
- Ongoing development of Project Lead the Way, a five course pre-engineering curriculum, at two Newark high schools
- Implementation of professional development workshops for over 200 Newark secondary and middle-school teachers regarding standards alignment and integration of engineering concepts into science curriculum

Positive community relations

- Hosting of a FRC Remote Kickoff and a FLL Tournament
- Hosting of a Robotics Summer Camp for Newark high-school students
- Strong commitment to partnering with the Newark School District
- Hosting of offices for NYC/NJ *FIRST*

FIRST is grateful for the support of the many universities who have been involved with our programs, and invites new institutions to join the *FIRST* community. It's easy to [get involved](#).

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***FIRST* Annual Fund Seeks to Meet Goal by June 30, 2005**

A message from James R. Utaski
Vice Chairman, *FIRST* Board of Directors
Chairman, *FIRST* Annual Fund

FIRST is an extraordinary organization with a dramatically relevant vision: To positively transform culture by inspiring young people, their schools, and communities to appreciate the opportunity in science and technology. Without question, countries with economic growth aspirations need engineers and a technically qualified work force. They also need young people who are scientifically literate, inventive, and have positive values - who know it is important to learn, achieve, and seek to make informed career choices. I ask for your support of the *FIRST* Annual Fund, which helps bring the *FIRST* experience to ever more young people and their communities.

The effect of *FIRST* is newly documented. A [conclusive study](#) of the *FIRST* Robotics Competition (FRC) by Brandeis University found a number of positive impacts. In the study of *FIRST* alumni primarily from urban and low income schools, *FIRST* participants were significantly more likely to attend college full-time, to have co-op jobs or internships in their freshman year, to major in science and engineering fields, and to seek to attain a post-graduate degree. Further, they were much more likely to pursue a science or technology career after college than a comparison group with similar backgrounds in high school math and science. Most significantly, they were more than three times as likely to major in engineering (41% vs. 13%) than the comparison students, which is seven times the average among US college students overall.

For even more evidence of the impact of *FIRST*, I invite you to read the recent BARRON'S editorial: "[Robots to the Rescue: An inventor takes on nothing less than the transformation of American youth.](#)"

Your support brings the power of FIRST to more students

Thank you to our sponsoring companies, corporate donors, foundations, and individuals for your

contributions to *FIRST* teams and events - both in personal time invested and direct financial help. Your support is deeply appreciated by our organization and by your communities.

If you would like to help *FIRST* increase its reach, please consider [making a donation](#) to the *FIRST* Annual Fund before June 30th, the 2005 fiscal-year end. Your support will provide vital unrestricted resources to our organization.

Every contribution truly helps.

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Spotlight on Teams

Every *FIRST* season introduces us to the ingenuity, creativity, and community spirit of the terrific teams that engage in the *FIRST* LEGO League (FLL) and the *FIRST* Robotics Competition (FRC). We hope you will enjoy a glimpse of some of their stories...

FLL team's vision of No Limits for local children with disabilities

The "Swashbucklers" FLL team from Washington Elementary School in Indiana used the No Limits challenge as an opportunity to write a grant to a local foundation to install a wheelchair swing in the local park. Even after receiving First Place in the Project Award at the Indiana FLL Tournament, the team pursued bringing about this real change by making presentations, submitting their grant proposal, and being interviewed about the



proposal. The grant was approved on April 19th and the lives of local children with disabilities will be enhanced with new opportunities for play!

Troops thank FRC team for encouragement and generosity

In working to have an impact beyond their local community, the members of [FRC Team 57](#), "The Leopards" from Booker T. Washington/High School for Engineering Professions in Houston, TX, adopted a US Marine platoon to support the young men and women stationed in Iraq, some of whom graduated from high school only a year ago. The team sent them letters every other week, care packages monthly, holiday gifts, and even a Christmas tree. On May 11th, Sgt. Ramiro Garcia, Sgt. John Nelson, Sgt. Virgil, Sgt. Luis Sencion, and Cpl. Kevin W. Manning of Marine Unit 41900 of the 1/23 HQ Command, now back home, visited the team to personally thank them for their support. The marines were very impressed with the robot and proud of the students' accomplishments. They only wished there had been such an inspiring program available to them in their high-school years.



"I am truly honored to be part of the Leopard family," said Sgt. Sencion. "It meant a lot to us knowing that so many people at home care."

Synergy between teams inspires further support

Two Ford Motor Co.-sponsored rookie FRC teams in Detroit discovered the benefits of joining forces when they learned shortly before the robot ship deadline that [Team 1602](#), "Cougar Boxing Bots" of Consortium College Prep High School, had access to a wonderful facility at the Michigan Works! building but was short of engineering mentorship, while Team 1508, "Robowizards" of Southwestern, Casa Richard, Holy Redeemer, and Western International High Schools, was running into issues with its facility. The teams decided to share space and engineers, and were even able to set up a practice area where most of the other Ford-sponsored teams eventually joined them to finish their robots and practice. Their Michigan Works hosts, YO! (Youth Opportunities federal grant to provide education and job training opportunities to at-risk young people) and SER-Metro (a multi-service community-based corporation that provides educational training and employment services), were so impressed with what they saw these teams doing that they have offered to house the Ford *FIRST* teams permanently, even bringing in computer connections, additional electrical capabilities, and workstations for each team.

FRC team spans US/Canadian border

2005 ushered in the FRC's first multinational team as students from the Sault Area Career Center in Sault St. Marie, Michigan partnered with students from Korah Collegiate in Sault Ste. Marie, Ontario to form Team 1596. "Twin Saults International Instigators" are sponsored by Convergence, GM, The Sault Tribe of Chippewa Indians, and Algoma Steel, who also provided engineering mentorship. A LEGO grant enabled these former *FIRST* LEGO League participants to advance to the high-school FRC program. Mentored by Lake Superior State University students and *FIRST* alumni, and helped through the process by 2005 Championship Chairman's Award winner "HOT" Team 67, this rookie team had a sensational year that included winning the 2005 Great Lakes Regional Rookie All-Star Award. The team has created a tremendous amount of community buzz, generating considerable traffic to their [website](#) during the season and prompting news outlets, including the Canadian Broadcasting Corporation, to provide media coverage.



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FIRST Champions honored for significant contributions

FIRST has many unsung heroes - people, at all levels, doing what they can to make the organization and its programs grow and succeed. Just a few of these "*FIRST* Champions" were recognized at the *FIRST* Championship Showcase Dinner on Friday, April 22nd. Through their stories, we see the many ways that people spread the word, encourage ingenuity, and inspire the greatness that so many have delivered for *FIRST* over and over again:

***FIRST* Individual Impact Champion:** Gordon Lankton, Chairman, Nypro Inc., who sponsored one of the original *FIRST* teams in 1992 and has transformed the entire town of Clinton, Ma. through his support of *FIRST*. In a town where possibly 3 students went on to seek a technical degree, now nearly 20 students per year pursue further technical education after high school.

***FIRST* Corporate Champion:** General Motors, which sponsors 44 *FIRST* Robotics Competition teams, including 9 low-income high-school teams, sponsors regional competitions for *FIRST* Robotics Competition and *FIRST* LEGO® League, participates in assessment studies, mentors rookie teams, encourages other sponsors, and promotes *FIRST* at every opportunity.

***FIRST* "Supplier Who Made It Happen" Champion:** Fred Hord, President, HPE Automation and member of the Fluid Power Distributors Association, who led his trade association and its 3,000 member sales force to promote *FIRST* to their customers and facilitated the addition of a complete pneumatic system to the common kit of parts used by every *FIRST* Robotics Competition team.

***FIRST* Contact Champion:** Camille Schroeder, Program Coordinator, K-8 Educational Partnering, College of Engineering, Iowa State University, whose efforts as a *FIRST* LEGO League Partner in Iowa have impacted over 1,000 children in the past 3 years, and who is an active member of the FLL Partner Community that strives to constantly improve the FLL experience.

***FIRST* King of Contacts:** Josh Weston, Honorary Chairman, Automatic Data Processing, Inc., who recruited New Jersey Institute of Technology to be the home of New York/New Jersey *FIRST*, solicited scholarship funds from five universities, and is working with the Chancellor of

New York City public schools to partner with *FIRST*. He also helped establish *FIRST* in Israel and is working to create a *FIRST* competition in Brazil.

***FIRST* Scholarship Champion:** American Society of Mechanical Engineers (ASME), which was the first professional society to establish a *FIRST* scholarship in 1995, and has continued to embrace *FIRST* by recruiting teams, volunteers, judges, and referees, providing print material to guide new teams and educate universities, and helping sponsor regional competitions. In 2005, ASME awarded 9 *FIRST* team members \$5,000 scholarships that can be applied to the school of their choice.

***FIRST* Judge Champion:** Jean Hoppert, Society of Women Engineers Fellow Life Member, retired Engineering Director, MasterfoodsUSA, who has been involved in *FIRST* for several years, filling many roles including judge, judge advisor, regional committee chair and, most recently, Las Vegas Senior Mentor.

***FIRST* Judge Champion:** Erik Halleus, retired Siemens executive, who is known for his thoughtful sense of humor in addition to his intelligence, determination, and good judgement, and who is helping to make the new Florida Regional flourish.

***FIRST* Media Mogul Champion:** Paul Lazarus, Writer/Producer, White Dwarf Productions, who works with students to document how *FIRST* has changed their lives in mini-movies about *FIRST* Chairman's Award-winning teams, and who has written a screenplay and feature movie about *FIRST*.

Anyone with the desire and passion to help *FIRST* grow can indeed do that. No matter where you are in an organization, you have the power to influence others. And there is no better way to use your influence than to help *FIRST*.

To the *FIRST* Champions and to all who have supported *FIRST*, thank you.

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Supplier Showcase

Kit of parts donors realize the impact of their generosity



Cliff Austin, Parker Hannifin Corp.

"Seeing *FIRST* in person was quite an experience. I was most impressed with the complexity of the robots and the pit area. What a great event for developing interest in science and engineering. We look forward to participating next year."

The first-ever "Supplier Showcase" at the 2005 *FIRST* Championship was a terrific opportunity for us to express our gratitude to the companies that truly make the *FIRST* Robotics Competition (FRC) possible, and to show who has been working behind the scenes to provide resources for the FRC kit of parts.

It also communicated to our suppliers that they are a very important part of an amazing undertaking. The representatives who came to display their products were wowed by the size of the crowd, the enthusiasm of the student teams and adult mentors, the sheer energy and excitement, and the considerable presence of corporate sponsors. And in participating in the Supplier Showcase they realized, firsthand, the significance of both the students' technical knowledge and the interest in the materials their companies had provided.

Fred Hord, [HPE Automation](#)

"The suppliers [who participated] gained a much broader view of *FIRST*. They came in promoting their products and their industry and left promoting science, technology, and our future. Almost all the suppliers asked to do more next year..."

Bill Kokum, [Bimba Manufacturing Co.](#)

"A 4-foot-6-inch kid with curly hair came up and asked me if he could position cylinders in mid-stroke. I started explaining what he might try within the limits of the competition and he interrupted with the question, 'Can I use pulse width modulation to control the valves?' I was very impressed to say the least."

Roy Blalock, [Parker Hannifin Corp.](#)

"I would like to thank you for opening the door to a new and exciting experience for all of us here at Parker Hannifin. These days we keep hearing how today's youth are not measuring up to the technological needs of this country's future. Well, look out! I saw the future at the *FIRST* Championship in Atlanta and at the Cleveland Regional. The level of technology that these students are exposed to is absolutely amazing. I had the kids telling me what products would work for them, not the other way around. That kind of thing is rare in the real world of automation products. So with that said, keep up the good work and maybe we may see a required high school class in robotics someday soon."

Joe Lehmann, [Bosch Rexroth Corp.](#), Pneumatics

"In all the years I have been working in the industry, *FIRST* has hit the hot button for young minds... Thanks for the special treatment and the opportunity to meet Dean and all his Segways."



Sales associate, [WIKA Instrument Corp.](#)

"I had a chance to talk to an engineer from Virginia who was helping his kids with their robotic project. He was one of the engineers who worked on the Titan 1 Missile project back in his younger years. His statement was, 'Look around you, these kids are our future leaders and entrepreneurs.'"



Scott Schuler, Director of Marketing, [FESTO](#)

"Wow, another unbelievable event! Even after the sixth year of doing this, I still have to remind myself during all of the fun and excitement that kids are learning about science and technology. It's absolutely incredible!"



Not only was this a valuable learning experience for suppliers and students alike, it was fun for all involved. Thanks to all of our suppliers who made the Showcase a tremendous success!



Additional suppliers in attendance were:

[Norgren](#)

[SMC](#)

[Terminal Supply Company](#)

[Timken](#)

[TSI Solutions](#)

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