



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY

# FRC Kickoff Meeting

## Oct 29<sup>th</sup>, 2013 5-7pm

St. John's United Methodist Church  
7372 Marine Road Edwardsville, IL 62025

[EdwardsvilleRobotics@gmail.com](mailto:EdwardsvilleRobotics@gmail.com)





# Agenda



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- What is FRC
- Who Do We Need & Roles
- When is Competition Season
- How We'll Prepare in the Off-Season
- How to Get Started
- Where to Meet
- Questions/Follow-Up

***FRC Team #4931***



# What is FIRST?



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**For Inspiration and Recognition of Science & Technology**

*"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."*

Dean Kamen, Founder

## **Mission**

Our mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

*JrFIRST Lego League, FIRST Lego League, FIRST Tech Challenge, & FRC*

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# What is FRC?



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- "The varsity Sport for the Mind," FRC combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program robots to perform prescribed tasks against a field of competitors. It's as close to "real-world engineering" as a student can get. Volunteer professional mentors lend their time and talents to guide each team.

[\*{ See 2013 FRC Ultimate Ascent }\*](#)

## Students get to:

- Learn from professional engineers
- Build and compete with a robot of their own design
- Learn and use sophisticated software and hardware
- Compete and cooperate in alliances and tournaments
- Earn a place in the World Championship
- Qualify for over \$16 million in college scholarships

FIRST® Robotics Competition

**KICKOFF COMING**  
**January 4, 2014**

71,250 students  
in grades 9-12  
on 2,850 teams



FIRST® Robotics Competition

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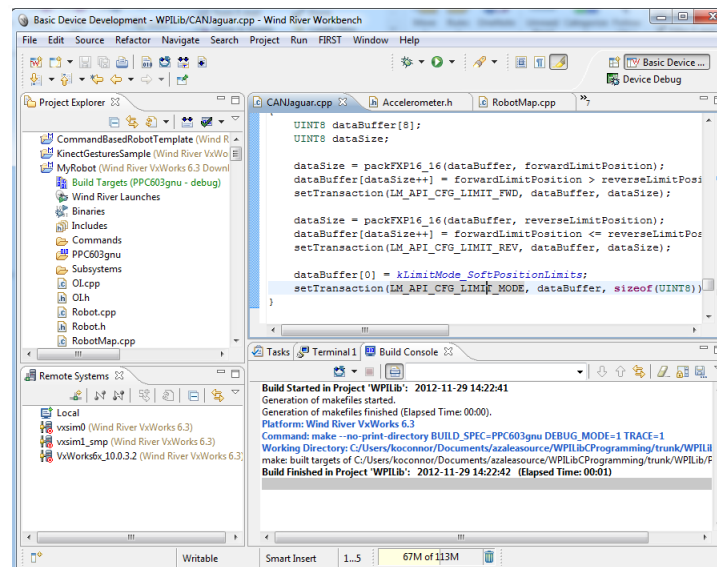
# What is FRC?



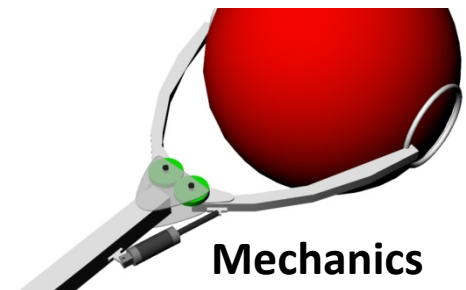
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**Robots!**

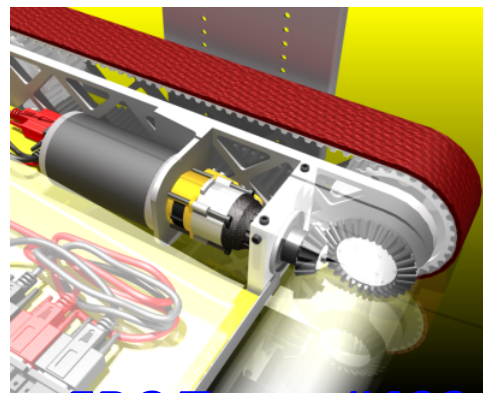
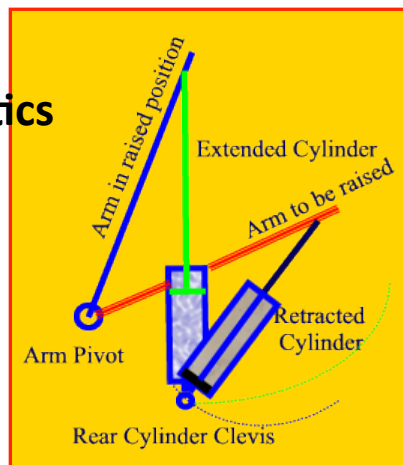


**Software & Web Design**

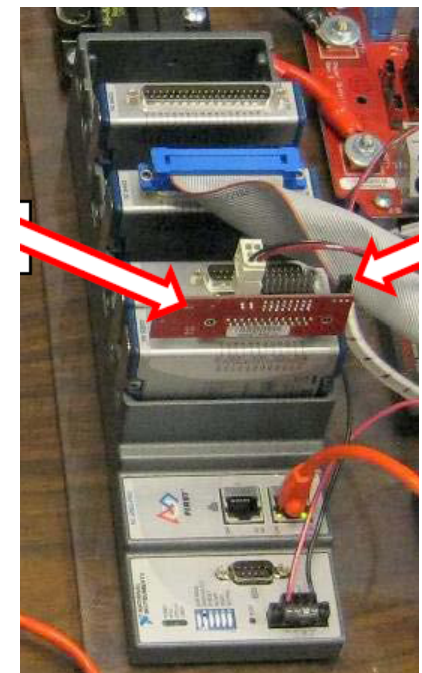


**Mechanics**

**Pneumatics**



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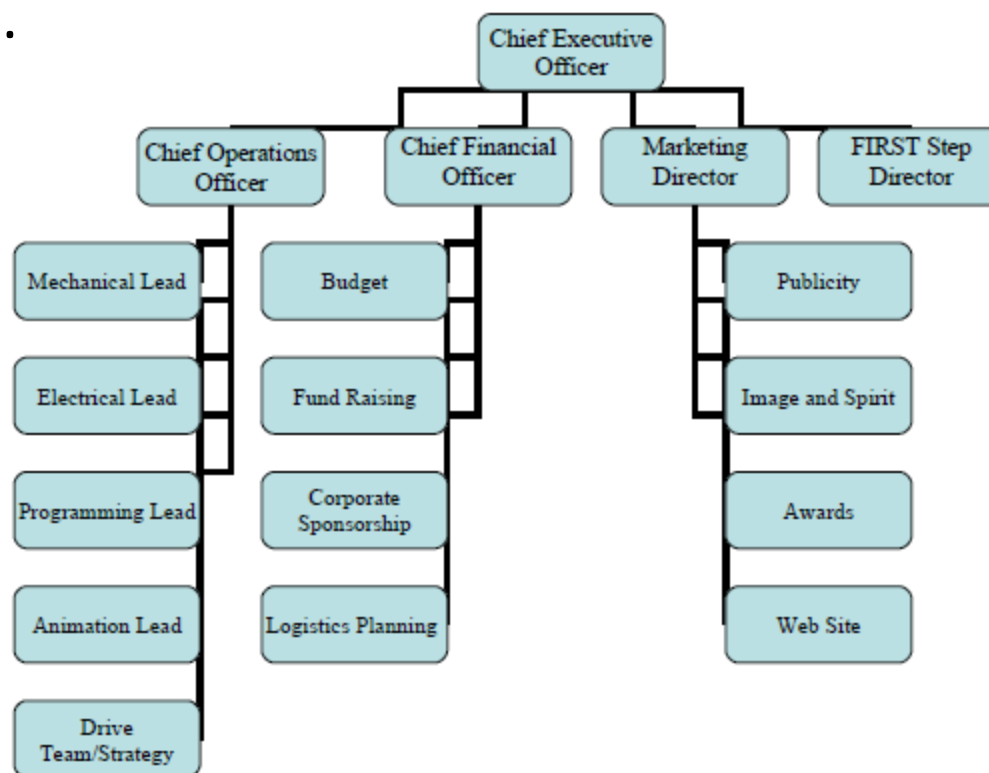


**Electronics**



- An FRC team needs a **LOT** of support!

- **Not** just programmers & builders...
- Finance/Business/Acct.
- Art/Graphic Design
- Marketing
- Mentors/Coaches
  - Rande Johnson
  - Randall Hauch
  - Others?? ☺



**Interest Surveys**

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Sample Team Organization Graphic courtesy Chantilly Robotics



# Who



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## Builders

Kyle Johnson

## Programmers

Cole Johnson

## Admin

Colin Hauch, Nathan Brown, Mathew Brown

Adam Gausmann, Tommy Waugh, Robert Schorr, Mason Watson

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Team 4246  
*Resurrected Robotics*

***Triad High School, Troy IL***

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<http://www.team4246.com/>



***FRC Team #4931***



Team  1208



THE  
METOOL  
BRIGADE

<http://www.othsrobotics.com/>



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# When is Competition Season?



- Kickoff is January 4<sup>th</sup>, 2014
- Robot design, build, & test runs just **6 weeks** from first week of January through mid-February
  - Meet **MOST** days of the week & occasional weekends
  - Sometime in Feb, robot gets “locked up” until competition
  - You can still program and work on supporting parts
  - But no touching the main robot itself
- Competitions start in March
  - We’re signed up for:
    - St Louis Regional Mar 13-15, 2014
  - Winners move on to *FIRST* Championship
    - Edward Jones Dome Apr 24-26, 2014

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# How Will We Prepare?



- Looking to meet several times a week through Nov/Dec
  - Where & when?
    - EHS Computer/Robotics club on Tuesdays
    - Metro East Lutheran HS?
    - Father McGivney HS?
    - Build site?
  - Organize & plan for January
  - Develop team/club website
  - Build marketing tools, advertise, fundraise
  - FRC Kickoff @ Clayton High School (12) Jan 4, 2014

*After competition, still plan to meet year round as part of ERC!*

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# Off-Season Learning



- Off-Season Learning Activities
  - Take FRC Mastery LabVIEW courses to train how to use LabVIEW
  - Look at FRC Kit of Parts (KoP) to become familiar with hardware & software
    - Especially with O'Fallon and Triad's help
    - O'Fallon meets every night after school from 3:30 – 5:00, & they welcome visitors
  - Training on wiring, pneumatics, & programming from mentors like local FRC teams, Boeing, SIUe, & schools
  - Mechanical) Download CAD programs such as AutoCAD Inventor, PTC Creo, Solidworks, etc. Free to students
  - Programmers) Get copies of LabVIEW for FRC (or C/Java for FRC)
  - Marketing/Admin) Website tools, brochures, t-shirts, team name/logo
  - Begin work on Safety animation for next year's FRC season.
  - Spend time perusing Chief Delphi & other FRC websites

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# Build Site



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- Build Site (we need a place to store & build the robot)
  - EHS does not have a shop. MELHS & FMGCHS probably same
  - EHS has programming/computer lab though
  - St. John's has some space, but no storage and limited Internet (and can't build there)
    - But, might be an option to build a facility on-site (next year...)
  - Are there properties in area that are available?
    - River City Robotics uses portion of strip mall
  - Would SIUe or Lewis & Clark be willing to host us?
    - SIUe not this year due to building move/retrofit
  - Does anyone know of any machine or automotive shops to team up with?

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# Meetings



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- When & Where to meet
  - Join EHS on Tuesdays?
  - MELHS on ?
  - FMGCHS on ?
  - ?? On Sat ?
- Certification Process
  - Mechanical certification (know tools, especially power tools)
  - Programming (LabVIEW vs. C/Java, cRIO, Networking)
  - Admin (Office apps, Graphic Design, Web Development)
  - Accounting/Fundraising

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# Budget



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Expense	Cost	Status/Comments
St. Louis Regional	\$6,000	
2nd Regional	\$0	Not planned for year 1 (for now)
Robot A	\$4,000	
Robot B	\$0	Not planned for year 1 (for now)
Tee Shirts	\$300	
Buttons	\$250	
Food	\$200	Counting on parent support & sponsors to start with
Halloween Parade	\$200	Float, robot parts, t-shirts, handouts
Glenfest Parade	\$100	Float, robot parts, t-shirts, handouts
Misc. Outreach	\$250	FLL Scramble, FRC workshops
Printing Services	\$250	
Advertising	\$200	Free media (stories/events in local paper) first year
Awards Dinner	\$100	
Laptops	\$2,000	
Misc. Supplies/Tools	\$1,000	
Phone/ Internet	\$0	Part of Edwardsville Robotics
Grand Total	\$14,850	\$15k First year budget
World Championship	\$6,000	If we make it. (grants available)

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# Learning Budget



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Expense	Supplier	Cost	Status/Comments
2013 Drive System	AndyMark	\$645	Two motors, wheels, C-channel base, gearboxes (no electronics)
NI RoCK Kit	AndyMark	\$1450	Full chassis & electronics system (w/cRIO)
cRIO System (only)	AndyMark	\$1200	Just the 4-slot cRIO & cards
Battery charger	AndyMark	\$200	Can charge 3 batteries
Batteries (x2)	AndyMark	\$90	
Team laptops	Best Buy?	\$1000	Can we get discount?
Extruded 80/20	TBD	TBD	Might be able to get some donated
Tools	TBD	TBD	Drills, saws (easy), band saw, sanders (harder)
Pit Toolbox	Smith's	\$0	Donation, just need to pick it up (KC)

Others?

Need to leverage Triad, O'Fallon, schools, parents, & employers as much as possible year 1

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# Fundraising



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Source	Amount	Odds	Weighted	Status
Boeing	\$6,000	80%	\$4,800	Applied 10/6
PTC	<del>\$1,000</del>	50%	<del>\$500</del>	<del>Applied 10/6, Denied 10/19</del>
Argosy Foundation	\$4,000	50%	\$2,000	Applied 10/8, \$2k yr 2, \$1k yr 3
Monsanto	\$20,000	10%	\$2,000	Best odds in second or third year
SIUe	\$2,000	25%	\$500	In-kind: facilities, equipment, and mentors
Company Matches	\$3,000	90%	\$2,700	Volunteer hours, matching donations
Membership Dues	\$4,000	50%	\$2,000	First year assuming smaller team
Fundraising (TBD)	\$2,000	50%	\$1,000	Robotics camps, others TBD
Donations	\$2,000	50%	\$1,000	Food, supplies, materials, etc.
In-Kind donations	\$4,000	50%	\$2,000	Labor, machining, services
	\$48,000		\$18,500	

## NOTES:

- ERC still waiting for final 501c(3) approval (any day now...)
- Other ideas? Car washes? FLL tables? (look online at other teams)

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# Where to Get Started !!



1. Get on our FRC email list (if you're not already)
  - Do we need a new email distro/group account for FRC only?
2. Register to be a member of our club
  - \$300 per year
  - Forms available today, or online at website with PayPal
3. Register with US FIRST
  - Create a STIMS (*Student Team Information Member System*) account
  - <https://my.usfirst.org/stims/site.lasso>
4. Ask to be on the Edwardsville Robotics team!
  - Request Team#: 4931
  - Team Name: Edwardsville Robotics/Team E'ville

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# Questions?



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