



Mounds Park Academy's Rookie FIRST Robotics Team Launches

"The whole ethic surrounding FIRST Robotics fits right into MPA's sweet spot!" Nicole Koen, Mounds Park Academy Lower & Middle School Director of Technology

Mounds Park Academy (www.moundsparkacademy.org) - a St. Paul-based independent PreK-12 private school founded in 1982 - has long embraced experiential learning. This year, the school joins over 150 other Minnesota high schools in helping to make Minnesota "The State of Robotics."

Team #3926 is made up of over 20 Upper School members as well as an excited group of Middle School students who actively

engage in the ideation process and already represent the next generation of team members. "We are so fortunate to have a great group of parent mentors in the areas of engineering, marketing and community engagement - all key aspects of FIRST Robotics," observes MPA Tech Director Nicole Koen, who is excited to serve as the Team Coach.

The team is also greatly appreciative of the Founding Sponsors - NASA, jcpenney, the Mounds Park Academy Parents' Association, SMC, Aetrium, Home Depot and numerous family donors.

If you are new to FIRST Robotics, we invite you to learn about this amazing movement to change popular culture in our country and abroad by building a greater appreciation for science and technology. Just visit www.usfirst.org. You can also get a good

idea of what the 2012 Season game Rebound Rumble is all about by visiting: <http://www.youtube.com/user/FRCTeamsGlobal>

Welcome aboard, sponsors and friends of the MPArors!

Team #3926 Today

MPA's Rookie Team Launches	1
Meet the Team	2
Naming the MPArors	2
Design/Build Update	2

January Edition - Season 1, Issue 1

2012

Mounds Park Academy

2051 Larpenteur Ave. E.
St. Paul, Minnesota 55109



Meet the MPAror's

On Saturday, January 7, the MPAror's joined over 4,000 other FIRST Robotics Teams around the world for the 2012 Season Kick-off! A small group went to the University of Minnesota to view the televised game animation with over 75 other teams and pick up our kit of parts, while the remaining MPA students and mentors watched NASA's live streaming video of the new game from school and began the critical ideation process, under the guidance of our amazing engineering mentors.

We spent over ten hours discussing the rules of the 2012 game and what kind of a robot design we want, in order to compete successfully in this basketball-inspired game.

Our goal is to have a working robot by the 5th week of the Official Build Season so that we can spend the final week testing its capabilities and becoming familiar with how to drive it.

While January 7 marked the official start of the 2012 FRC Season, the MPAror's have been meeting since Spring 2011 in order to lay the groundwork for their Rookie year.

Here are some Pre-Season highlights:

- Team formation announcement at Upper School Meeting attracts over 20 students to sign up
- MPA Tech Director Nicole Koen signs on as lead faculty advisor to the team and Head of School Mike Downs authorizes build-out of an awesome space to serve as our new Robotics Lab
- Team members begin community outreach by demonstrating a robot - graciously lent to us by veteran FIRST Robotics Team #3130 of Woodbury's East

Ridge High School - to students in Breakthrough St. Paul

- Ideation sessions regarding a team name and logo are conducted over the summer, under the guidance of MPA parent and Marketing Mentor Melissa Schoenherr, Director of Marketing for Park Nicollet

• Team conducts educational field trips to the University of Minnesota's College of Science & Engineering, visiting the Biomedical Engineering labs of Will Durfee, PhD, and Art Erdman, PhD

• Other exciting tours include KSTP's TV & Radio Production Studios, Specialty Manufacturing Corporation (SMC) and PaR Systems

• Several team members take advantage of the U of MN's GoFIRST college mentors to participate in a Mock Kick-Off (MoKo) just to get practice with the design and ideation process

• After numerous runs to Home Depot and Aetrium, we have the makings of a decent little industrial shop - donations of additional tools and equipment are still warmly welcomed!

• Sponsorship materials are developed
• Major sponsors NASA and jcpenney sign on to cover the cost of our kit of parts, tournament registration and investment in the supplies needed to start a robotics team

• Student team members teach & learn new skills like industrial design principles, programming, website development, computer-aided design (CAD), working with power tools, safety standards, teamwork and marketing

So far, so good! Stay tuned for future updates

Robot Update:

Design & Build Season

The Shooter

Students, under the guidance of our awesome mentors, have designed (in CAD) and built a fully functional shooting mechanism that will repeatably launch foam basketballs. Up next: Vision software that will calculate the speed of launch

Robot Chassis

Our aluminum base has been built and will run on six pneumatic tires, run by ceramic induction motors. Alterations to the basic configuration were made to successfully navigate the tricky field elements and more effectively collect the basketballs from the field.

Ball Collector Mechanism

Students have chosen to design a treadmill contraption that - if it works - will be mounted onto the chassis and connect to the shooting mechanism. A prototype is currently in the testing phase.

Bridge Navigator

Team members will soon attack the challenge of finding a way to grab onto the pivoting bridge and mount it - something that gives major points at the end of each match. We have a few potential designs which team members will be trying out.

Field Elements

The team is simultaneously working to build several critical field elements so that once our robot is built, we can test its ability to travel over the bump, shoot baskets and balance on the bridge.

How the MPAror's Got Their Name

After participating in a professional branding and ideation process - and over much deliberation - the Founding Members of MPA's Robotics team settled on a team name that reflects the school name and a spirit of fun. MPArors - as in Emperor Penguins - was conceptualized by 8th grader, Cooper Olson.

