

FIGHTING PI WEEKLY

JANUARY 16, 2010

UPCOMING EVENTS**CASS TECH
COMPETITION**

MARCH 12-13, 2010

**WEST MICHIGAN
COMPETITION**

MARCH 19-20, 2010

**(MICHIGAN STATE
CHAMPIONSHIP)**

APRIL 1-3, 2010

**SPECIAL POINTS
OF INTEREST:**

- The Team 1718 Bowling Fundraiser will be held on February 26th, 2010.

**BREAKAWAY IS HERE!
WRITTEN BY: TREVOR GOOLSBY**

After a year of waiting, the 2010 FRC Season Competition was unveiled on January 9th. This year, the game is called *Breakaway*. *Breakaway* is played with two teams, each with three robots. The game field, a 54 foot by 27 foot arena, is separated into three sections by two bumps that rise at a 45-degree angle to a 13 inch height, stretching across the width of the field. The main objective is for robots to launch soccer balls at their teams goal. Two goals for each team are located in the corners of the arena. Once a ball is in the goal, human players can place the balls back into play via an overhead track that returns the balls to the center section of the arena. During the last 20 seconds of a match, robots can score bonus points by hanging from the tower that holds the overhead ball return track.

No part of the robot can touch the ball bump platform. These towers are located in the middle of each of the two bumps in the center of the field. To score even more points, a second robot can try to hang onto a robot that is already hanging from the tower. Each match is played in two minutes and 15 seconds with the first 15 seconds being autonomous mode. In autonomous mode human players may not control the robot. Bonus points for hanging from the tower may only be scored in the final 20 seconds of the two minute human player time. For a more intricate description of *Breakaway*, feel free to visit [Http://www.usfirst.org](http://www.usfirst.org) and search, "Breakaway."

**ANNUAL TEAM 1718 BOWLING FUNDRAISER
WRITTEN BY: KRISTAL DIEL**

On February 26, 2010, the Fighting Pi will be having a bowling fundraiser. Our fund raising team has been hard at work arranging this event. It will be located at Strikers Entertainment Center in Richmond. It will start at nine in the evening on that Saturday. There will be a raffle and basket of cheer items raffled off.

Proceeds will go toward covering team expenses. The Fighting Pi has held bowling fundraisers in each of our past two seasons and they have proven to be a fun night for all. Come to Strikers on February 26 and invite all of your friends.

**TEAM CAPTAINS
WRITTEN BY: STEPHEN KLINE**

This year at the Christmas party we came up with nominations for our team captains. During the kickoff meeting on the 9th we voted on the nominations. The team captain is the one that leads the team. They are the ones that assign jobs and are the first ones you go to when something goes wrong. The three teams this year are mechanical, electrical, and

business. The mechanical team captain, voted for by the majority of the robotics team as a whole, is Kevin Kline. The mechanical team is responsible for the design of the robot, subject to team approval, and for putting it together. The electrical team captain is Jacob Caporuscio. The electrical team is responsible for the wiring and programming of the

robot and for making the remote control panel. And finally, Chelsea Antilla was selected as the team captain for business. The business captain tracks all fund raising and expense accounts for the team. These captains are responsible for each of their groups, and they give updates periodically to the rest of the team.

**NEW MEMBERS
WRITTEN BY: MICHAEL GRAHAM**

Now that FIRST has revealed the new game, *Breakaway*, our team has been able to begin the design process. Due to the placement of two bumps in the field this year, much talk has been generated as to what to do in the event of the robot tipping over. After some brainstorming, the team narrowed it down to two ideas. We would either install a mechanism on the robot which would right the robot, or design the robot so that it could drive on its back. The debate over the use of wheels or treads ended with wheels, after the misery of the 2005 robot, which had been built with treads. With these two options, the debate began. Advocates of a robot which could drive

upside down argued that it would be a great time saver in a game in which time is a most valuable commodity. On the other hand, time in the build season would be wasted if we had to duplicate every gadget and install them on the top and bottom of the robot. In the end, one of our mentors, came up with the winning idea; to not let the robot tip over. A group of students came up with the idea for a device which would shift the robot's center of gravity, thereby preventing it from tipping over in the first place. The team reasoned that prevention was the best cure. So, the debate over whether

to have a robot capable of driving on its back or a robot with a self-righting mechanism ended with the decision to do neither. Further discussion then centered on how to build a robot that could climb over the center field bumps. After a long debate on this topic, a discussion began on how to build a mechanism that would allow the robot to hang from the tower, in order to gain bonus points at the end of the game. It would seem that a lot of time is used debating build options, but some of the strangest ideas often lead to very creative solutions to the problem: how to build a robot that can compete successfully.