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INDIANA
ROBOTICS
INVITATIONAL

The 2009 Indiana Robotics Invitational Information Document

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IRI Organizing Committee
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CONTENTS

I. Introduction

This document is written to describe the 2009 Indiana Robotics Invitational, otherwise known as the "IRI". 2009 is the 10th year for the IRI and this year is expected to be the biggest and best ever. The goal of the organizing committee is to make the IRI the premier out of season FIRST robotics tournament.

II. History

The IRI began in 2000 and was originally developed by Team 45, the TechnoKats from Kokomo High School. By 2001, the IRI had outgrown the Kokomo facility and was too big to be managed by a single team. For the 2002 IRI, Team 234, Cyber Blue from Perry Meridian High School, and Team 393, Full Metal Jackets, from Morristown High School, joined forces with Team 45 and moved the IRI to its' current location in Indianapolis. The host school is part of the home for Team 1024, the Kil-A-Bytes.

For 2009, the IRI will again include up to 72 teams, with several awards and special program events. The tradition of the All Team Dinner on Friday night continues.

Continuing for 2009 will be an "Early Career Team Matches" activity, similar to the Pre-Rookie Challenge from 2008. See Section X and XV for more details.

The sections below provide details on the event.

Please direct any questions, concerns or inquiries to the Planning Committee at: PC@IndianaRoboticsInvitational.org

The latest updates for event information can be found at the event website: www.IndianaRoboticsInvitational.org. The website will be updated by May 1.

III. New For 2009

A. WINNER BONUS - As an additional incentive, the 4 winning alliance teams will receive an "automatic invitation" and waived entry fee to the 2010 Indiana Robotics Invitational (If the team is active in 2010 and there is a 2010 IRI.)

B. MENTOR TOURNAMENT – We are bringing back the Mentor Matches, with a twist. There will be a 4 Alliance 12 team "Mentor Driver" Elimination Tournament during the Lunch Break on Saturday. Alliances will be randomly assigned. Teams must be 3 Mentors (over 21) and one Pre-College Coach. Entry Fee for this Special Tournament is $100, and all of the funds go directly to the IRI Charities. More Details will be provided later.

IV.   Hosts

   A.   Event Hosts
      1.   Team 234, Cyber Blue, from Perry Meridian High School, Indianapolis, IN
      2.   Team 45, TechnoKats, from Kokomo High School, Kokomo, IN
      3.   Team 1024, Kil-A-Bytes, from McKenzie Career Center, Lawrence, IN

V.   Location

   A.   The 2008 IRI is at Lawrence North High School

      Lawrence North High School
      7802 Hague Road
      Indianapolis, IN 46256

VI.   Dates and Times

   A.   Dates – The 2009 IRI is Friday and Saturday, July 31 and August 1.
   B.   Times – Thursday July 30
            Team Load In* 7 PM – 9PM
   C.   Times – Friday July 31
            Doors open at 7 AM
            Practice matches 8 AM – 10:00 AM
            Opening Ceremonies 10:30 AM
            Matches begin at 11 AM
            Activities end at 9:30 PM
            Doors close at 10:00 PM
   D.   Times – Saturday August 1
            Doors open at 7 AM
            Opening Ceremonies 8:00 AM
            Matches begin at 8:30 AM
            Finals begin at 1:30 PM
            Activities end at 4:00 PM
            Doors close at 5:30 PM

   * This is only for bringing in your robot and setting up your pit area.
     There will be no practice or field time available for teams.
     All teams must depart by 9 PM.

VII. Entry Fees

    A. $500 – All IRI Competition Teams (Includes Event and Dinner)

    B.   Filled Back-Pack for an Elementary School Student
Materials: Small Backpack, 1 pair scissors, 3 pocket folders, 1 box of 24 crayons, 3 glue sticks, 1 ruler with inches and centimeters, 1 package pencils, 2 large erasers, 2 black pens, 2 red pens, 2 packages loose leaf notebook paper, 1 school supply box, 1 package colored pencils, 1 package washable markers, 2 packages tissues, 3 spiral notebooks.

Rolls-Royce supports several education related activities in the local area. This includes FIRST Robotics, Project Lead the Way and B.I.G. at the high school level, and several programs at the elementary school level. One special program is called "Pack to School". Employees donate materials for a backpack equipped for an elementary school student. These backpacks are collected and provided to local elementary schools with a high percentage of students who need this type of assistance. In 2006, the IRI collected over 80 backpacks and sent ½ of them to the hurricane ravaged areas of Louisiana and ½ to the Pack To School program.

    C.   Dinner Reservation Confirmation
The Parent Crew from Team 234 Cyber Blue provides dinner for all team members and mentors on Friday night, between the competition matches and the talent show. To help assure an accurate count for food purchase, teams are asked to provide an accurate count for dinner.
We want to have enough food for all, but do not want to waste excessive food.

A maximum of 25 tickets are allowed per team.

    D.   IRI Scholarship Fund – VOLUNTARY DONATION
The IRI Scholarship Fund is a permanent fund that will be used to provide a scholarship to a graduated FIRST team member. The decision to donate to this fund is entirely voluntary for teams. Any contribution is appreciated.

VIII. Teams

    A.   Entries will be limited to 72 Teams, including the three host teams.
    B.   There are no guaranteed entries.
    C.   A waiting list will be created after the field is full
    D.   Teams not confirming their entry or not making payment by the required dates will be moved from the registered listing and replaced with a wait listed team to assure a full field.

IX.   IRI - Registration Process – *(CHANGED FROM 2008)*

A.   Application Submission begins at 6 PM (Indiana Time) on May 1st, 2009.

Final Team Selection is at the discretion of the IRI Planning Committee and is designed to provide for a diverse field, recognize team performance both on and off the playing field, recognize teams who have supported the IRI event and teams who are providing support for rookie and forming teams. Application date and time are considerations in the final decisions but the event is not a "first come / first served" format.

B.   Application and Registration Process

1. May 1 – May 8 - Applications Open
    a. Teams apply through the IRI website (www.indianaroboticsinvitational.org) and provide their team number, team name, contact person, contact email and contact phone numbers. Teams must provide a listing of 2009 Competitions attended and tell the IRI why they want to attend and how they will make the IRI a better event.
    b. The application is date and time stamped by the website.
2. May 11 – Team Decisions Completed by Planning Committee
3. May 12 – Team Invitations Made
    a. 78 Teams will receive Invitations to the IRI
        i. From the list of 78 teams, the first 72 to confirm attendance and send payment are accepted to the Invitational.
    b. Invited Teams will be identified by
        i. Email to the identified team contact
        ii. Posting on the IRI website
        iii. Posting on Chief Delphi
4. May 12-22 – Teams Complete Registration Process
    a. Invited teams must return to the IRI website to complete the registration process and provide complete team information.
    b. Teams will be able to print an invoice directly from the website after registering.
5. May 22 – Registration Deadline for Invited Teams
    a. All invited teams must complete the registration process on the IRI website by May 22nd (midnight, Indiana) or they will be moved to the wait list.
6. May 30 – Full Payment Received
    a. Full payment must be received by May 30 (midnight, Indiana) or teams will be moved to the waiting list.
7. Wait Listed Teams
    a. Teams on the waitlist will be advised if a position becomes available.
    b. Teams will have two weeks to register and send payment.
8. July 1 – Final Team List Frozen

C. Payment in full must be received by May 30th.

        Make checks payable to "Perry Meridian High School – IRI".

        Checks must be in US Dollars

        Credit cards are not accepted

D. Mail payment to:

        Indiana Robotics Invitational

        Perry Meridian High School

        c/o Lloyd Gough (NEW PERSON FOR 2009)

        401 West Meridian School Road

        Indianapolis, IN 46217

E. Information Required – the following information will be required to register.

        Team name

        Team number

        Point of Contact

        Point of Contact phone and email

        Number of students and adults attending

        Number of participants for the team dinner on Friday night

X. Early Career Challenge – Registration Process:

A. May 1 – Applications Open Early Career Teams

Newly forming teams and 2009 Rookie teams apply through the IRI website and provide as much team information as they have available. Pre-Rookie Teams will be asked to designate the existing FIRST team that is mentoring them and will provide their support during the IRI.

Teams may register up to July 1 for participation in the 2009 IRI Early Career Challenge.

There is no entry fee for the Early Career Challenge.

For 2009, we expect to have a full practice field available in the auxiliary gym. There will be designated times for the field to be used for Early Career matches and for other team practice.

NOTE: Due to the competitive nature of the IRI competition and team selection process, it is extremely difficult for a Rookie Team to be selected. Rookie teams are encouraged to gain additional game experience by participating in the Early Career activities.

NOTE: Early Career / Pre-Rookie Teams are not part of the 72 Team IRI field of teams.

XI. Volunteers

A. Volunteers make the IRI a successful event. Volunteers can register through the IRI website.
   1. If you apply, assume you will be utilized as a volunteer.
   2. You will be notified in early July of your role / responsibility.
   3. You can indicate a preference for position when you apply. The areas where volunteers are needed are:
       Field Reset, Queuing, Pit Announcer, Scoring.

XII. The Game

A. The IRI Challenge will be the 2009 "Lunacy" game.
B. SCORING and RULES
   Scoring and rules will be the same as the official FIRST "Lunacy" with the following exceptions:
   1. Rule Changes – To Be Announced.
C. ALLIANCE SELECTION & TOURNAMENT PLAY
   1. The Top 8 Teams will be Alliance Captains, determined by win – loss record and RS (same as FRC Process).
   2. Alliances will be 4 teams. The Alliance Captain will have full discretion on which three teams play each match. There is no requirement that all teams in the alliance play.
   3. The Alliance is allowed to mix Robots and Payload Specialists from the 4 teams.
   3. Alliance selection will be 1, 2, 3, 4, 5, 6, 7, 8, - 1, 2, 3, 4, 5, 6, 7, 8 – 8, 7, 6, 5, 4, 3, 2, 1
   4. Alliances are allowed One Six Minute Time-Out during the Tournament Play. Alliances may not give their time out to the other alliance.
   5. The alliance may play any combination of their 4 robots and 4 Payload Specialists in any match.

XIII. The Robot

A. Robots must meet the design and safety requirements of the 2009 "Lunacy" Game
B. Teams have an honorary 5 pound allowance in total robot weight. Bring your Gracious Professionalism. There will be no weigh in or technical inspection.
C. The Referees reserve the right to Disqualify or require Repair or Modification to any robot that appears to be unsafe or is operating outside of the "Lunacy" rules and guidelines.
D. Robots may be highly modified from their official FIRST competition configuration provided they meet rule A.

XIV. Matches

    A.   A limited number of practice times will be available and practice time is not guaranteed. Teams will line up at each end of the field, waiting for a chance to practice. If a team has practiced once, then they may be moved back in line to allow for a team who has not practiced to move in front of them.

    B.   Come ready to play!

    C.   The match schedule will be set to maximize the number of matches available for teams. This requires teams to be queued and ready to rapidly move on and off the field.

XV. Early Career Team Matches

The "Rookie / Pre-Rookie Exhibition Challenge" is being modified slightly. Pre-Rookie, Rookie and Early Career Teams are invited to come to the IRI and participate in exhibition style matches to gain experience in match play, meet and greet other teams, and enjoy all of the other IRI activities. The intent of these matches is to allow new and newly forming teams to experience the excitement of FIRST competition in a method where they can learn while gaining this experience.

Teams may compete using a robot they have built or that has been loaned to them by another FIRST team. The robots must meet the general rules for the 2009 "Lunacy" challenge but leeway will be given.

The Early Career teams will compete only with other Early Career teams. An additional, veteran mentor will be allowed on the field with these teams as they compete. Referees will call the match, but will limit penalties called and provide more detailed descriptions of infractions to allow these future FIRST teams to learn.

Pre-Rookie teams are strongly encouraged to be "sponsored" by an existing FIRST team who will mentor them on robot rules, game rules, Gracious Professionalism and provide guidance during the matches.

XVI. Webcast

A. We expect to provide a webcast of the event. Details will be provided when available.

XVII. Food

A. At the IRI – Food, snacks and drinks will be available in the school concession stands. Concessions are a fund-raiser for Team 1024 and are affordably priced.
B. In the area – The IRI is located near 82nd Street and I-69, Castleton Mall, Keystone at the Crossing and several other shopping areas. Just about any meal you desire is available in the general area.
C. Friday Night – All team members, Engineers and Mentors are invited to dinner. Dinner will be served between match play and the Talent Show.

XVIII. T-Shirts

A. Limited Edition 2009 IRI T-Shirts will be available for purchase.
B. T-shirts will be $10, cash or check only.
C. T-shirts may be ordered and will be mailed. These shirts are $12 to cover the mailing expense.

XIX. Other Entertainment

A. Indianapolis is home to many family oriented attractions.
   a. Indianapolis Children's Museum
   b. Indianapolis Museum of Art
   c. Indiana State Museum, Eitlejorg Museum
   d. NCAA Headquarters
   e. Indianapolis Motor Speedway
   f. Indianapolis Raceway Park
   g. Lucas Oil Stadium
   h. Indianapolis Indians
   i. Bowling, laser tag and other facilities are in the general area.

XX. Hotels

A. Many hotels are located in the I-69, 82nd Street, 96th Street area.
   Be sure you are on the North-East Side of Indianapolis when you search.
   There is a location map on the IRI website.
B. Below are SIX hotels who are offering special rates for IRI Teams.
   See the special instructions or contact person with each hotel listing.
   Be sure to mention the IRI when you call.

SpringHill Suites Fishers
9698 Hague Road
Indianapolis, IN 46256
317-841-0416
Stephanie Ferrer – 317-284-8900 (direct line)
or Stephanie.ferrer@whitelodging.com
$79 King Studio Suite, $89 Queen / Queen Studio Suites.
Breakfast is Included.

Indianapolis Marriott Downtown
350 West Maryland Street
Indianapolis, IN 46225
Sarah B. Schomburg
sarah.schomburg@whitelodging.com
Direct: 317.405.6013   Fax: 317.951.0300
Rate is $139.00 / Night
* NOTE: This hotel is downtown Indianapolis, about 12 miles from the event location.

Candlewood Suites ~ Greenwood
1190 North Graham Road
Greenwood, IN 46143
Joy Piety
Director of Sales
T: 317/882-4300 | F: 317/882-4302
www.candlewoodgreenwood.com
STUDIO SUITES: Fully equipped kitchen , 32" HD TV, DVD player, recliner, oversized desk with 2 chairs, free high speed internet.
$79.00 for Queen Suite & $89.00 Two Double Bed Suite
* NOTE: This hotel is on the southeast side of Indianapolis, about 24 miles from the event location.

Holiday Inn Indianapolis Northeast
9780 North by Northeast Blvd.
Fishers, IN 46037
317.578.9000 / Fax: 1.317.578.9999
E-Mail: JBertelson@DoraHotels.com
$89 (Continental Breakfast)
1) Online at www.holiday-inn.com/ind-northeast
     Enter Group Code "IRI"
2) Call Holiday Inn Worldwide at 800-465-4329
     You will need the following information:
          Holiday Inn Indianapolis Northeast (INDNE)
          Indiana Robotics Invitational (IRI)
3) Call the hotel directly at 317-578-9000 and refer to
     "Indiana Robotics Invitational"

Holiday Inn Express Northeast
9790 North by Northeast Blvd.
Indianapolis, IN 46037
317.578.2000 / Fax: 1.317.578.1111
E-Mail: JBertelson@DoraHotels.com
$89 (Hot Breakfast Buffet)
1) Online at www.hiexpress.com/ind-fishers
     Enter Group Code "IRI"
2) Call Holiday Inn Worldwide at 800-465-4329
     You will need to have the following information:
     Holiday Inn Express Northeast (INDFS)
     Indiana Robotics Invitational (IRI)
3) Call the hotel directly at 317-578-2000 and refer to
     "Indiana Robotics Invitational"

Hilton Garden Inn Indianapolis Northeast/Fishers
9785 North by Northeast Blvd.
Fishers, Indiana 46037
Ph. 317.577.5900 / fax 317.577.1111
E-Mail: JBertelson@DoraHotels.com
$104 (No Breakfast)
1) Online at www.indianapolisnortheastfishers.gardeninn.com
     Enter Group Code "IRI"
2) Call Hilton Worldwide at 877-STAY – HGI
     You will need to have the following information:
     Hilton Garden Inn Indianapolis NE /Fishers (INDFH)
     Indiana Robotics Invitational (IRI)
3) Call the hotel directly at 317-577-5900 and refer to
     "Indiana Robotics Invitational"

XXI. Special Events

A. Senior Recognition – We will recognize all 2009 graduating seniors who are in attendance on Saturday, during the awards ceremony. You will be asked to provide this list when you sign in at the event. Please be sure to include your team number in the listing.

B. Talent Show – Since the inaugural IRI Talent Show in 2004, this activity has continued to grow in popularity and (luckily) in talent. Friday evening will feature the 6th IRI Talent Show and will once again feature a star-studded FIRST –famous judging panel. The show will begin after dinner and will be in the Auditorium at the school. All performances must be in good taste and suitable for family enjoyment. Your act will be screened and approved during the day Friday by the Talent Show Coordinator. Send your entry to Talent@IndianaRoboticsInvitational.org no later than July 11.

C. Charity Auction – This will be the fifth year for the IRI Charity Auction. FIRST memorabilia and other valuable items will be offered in a silent auction format. A quilt made from 2009 FIRST Team shirts will be offered. All of the funds go to a local youth-oriented charity. In 2008, over $3000 was donated to the American Red Cross Flood Relief and the Howard County Relay for Life (Kokomo). New charities may be selected this year. Information for these charities will be available at IRI.

    Teams that have an item to donate are asked to contact the Planning Committee to make arrangements.

E. Team Photo – There will be a designated area for team photos. These photos will be used during the awards ceremony.

XX. Awards and Competitions

    A.   Team Awards
- a. TechnoKats Spirit of Indiana Award
- b. Most Awesome Drive-train
- c. Outstanding Quality
- d. Leadership IN Control
- e. Imagery and Design
- f. Driving Tomorrow's Technology
- g. Best Payload Specialist
- h. Best Scoring Robot
- i. Team Spirit
- j. Judges Award
- k. Winning Alliance
- l. Runner-Up Alliance

    B.   Individual Awards
- a. IRI Mentor of the Year
- b. IRI Scholarships

OVERVIEW

This section provides a general summary regarding the awards and competitions for both team and individuals at the Indiana Robotics Invitational (IRI) 2009.
(As hosts, teams 234, 45 and 1024 have asked to be excluded from the team awards. Students from these teams are eligible for scholarships and individual awards.)

TEAM AWARDS

The *TechnoKats* Spirit of Indiana Award

The *TechnoKats* Spirit of Indiana Award is award celebrates the top Indiana team regarding spirit, motivation and overcoming obstacles.

The Most Awesome Drive System Award

The Most Awesome Drive System award celebrates the team that has created, by the judge's best approximation, the most awesome drive system. The criteria and definition of the word 'awesome' is left up to the judges.

The Outstanding Quality Award

The Outstanding Quality Award celebrates quality and robustness in robot design, build, and operation.

The Leadership IN Control Award

The Leadership in Control Award celebrates an innovative control system or application of control components to provide unique functions and a competitive edge in this year's game.

The Imagery and Design Award

The Imagery and Design Award celebrates attractiveness and uniqueness in engineering, aesthetics, design or construction.

The Driving Tomorrow's Technology Award

This Driving Tomorrow's Technology award celebrates an elegant and advantageous feature of a machine. The criteria for this award are based on the team's ability to verbally describe, as well as demonstrate said feature.

Best Payload Specialist Award

The Payload Specialist Award celebrates the best overall Payload Specialist, based on accuracy, decision making and strategic play. THIS IS VOTED BY ATTENDING TEAMS.

Best Scoring Robot Award

The Best Scoring Robot Award celebrates the best scoring robot, with the definition of 'best' left to the judges. THIS IS VOTED BY ATTENDING TEAMS.

The Team Spirit Award
This Team Spirit Award celebrates the team who shows the best team spirit both in the stands and in the pits.

The Judges Award
This Judges award celebrates the team that the judges would like to "take home".

INDIVIDUAL AWARDS

The Indiana Robotics Invitational Mentor of the Year
This award celebrates the selected the mentor from a team participating in the 2009 IRI. The nominated Mentor must be in attendance at the IRI. Each team may nominate one individual for this award. Nominations should be a one page typed or two page hand written essay describing the mentor's activities to help his/her team grow within itself and to help the FIRST community. Nominations should be brought to the competition and placed in the Mentor of the Year Box. Judging will be by a select group of FIRST Alumni. Nominations should have the nominee's name, team number, and team name in the footer.

IRI Scholarships
The 2009 IRI will award multiple Technical Scholarships and one $1500 Education Focused Scholarship. The value of the Technical Scholarships has not yet been set, but will be $1000 or higher. These scholarships will go to a graduating senior student from any team competing at the 2009 IRI. Students must apply through the IRI website and follow the instructions there. Two references are required for a student to be considered for a scholarship.

Students will be required to complete a short essay (500 words) to answer the following question:
1. How FIRST participation has impacted your life and your future career plans.

Students will require two reference letters -
1. A reference form from a Mentor, Engineer or Teacher on your team.
2. A reference from one other adult.

Complete applications (Essays and Reference Letters) must be received by July 1, 2009 to be considered. Scholarship decisions will be made by the sponsoring companies.

Scholarship Criteria

Technical Scholarships
Up to four of the scholarships will focus on students pursuing engineering, science or technical fields in post-high school education.

Marcia Beatty Memorial Scholarship
Marcia Beatty was a lifelong educator and dedicated to young people. She was also a dedicated member of Team Hammond and FIRST in Indiana. To honor Marcia, the Marcia Beatty Educational Foundation and the Indiana Robotics Invitational are awarding a scholarship to a 2009 FIRST team graduate who is pursuing a career in education.