



# NEIRSEF Notes

Northeast Indiana Regional Science and Engineering Fair • November 2006

Northeast Indiana Regional Science  
and Engineering Fair  
Gates Sports Center @ IPFW  
Saturday, March 17, 2007

## A Message from the Director

National and statewide innovations in STEM education (Science, Technology, Engineering, Math) are being pursued in many school systems, universities, and science educational organizations. These new programs are designed to promote STEM concepts, provide practical hands on skills, and encourage students to consider pursuing STEM related careers. With all of these new ideas, it is amazing that one of the oldest traditions, the Science and Engineering Fair, is still very relevant for exposing students to a process that is at the core of all STEM fields....**the research process.**

The teacher is a critical link in providing the training in the research process and motivating students to participate in the fair. The Regional Fair Committee truly admires and respects your efforts to prepare students for NEIRSEF on March 17, 2007. While your goal is to teach and guide the students, our goal is to support you through the process. Please note:

- **New and Faster On-Line Jr./Sr. Regional Eligibility Forms** that are linked so that once a student/teacher fills out the Pre-Review Questionnaire, they are directed to the next step (Exemption Form or Pre-Review Cover Sheet). The contact and project information will automatically appear on the second form saving time. All you will need to do is print the form, obtain signatures, and it will be ready to go! (ISEF forms must still be printed from the Rules Handbook.)
- **Jr./Sr. Student Project ID#'s assigned immediately** once the Questionnaire is completed and submitted and the number will be sent to your email. By saving the email confirmation, the teacher can have all the project ID numbers for registration and can also link directly to each student's information page.
- **Multiple "Fair Help Guides"** are in this mailing and also on the website to assist you in knowing what forms to use for your students' projects.
- **Regular Email Updates** will be sent out alerting you to deadlines and helpful hints on preparing for the Fair.

I am also pleased to introduce the new NEIRSEF Educator Liaison, Caryl Spira. You can be sure to have a helpful and quick response from Caryl in regard to your Fair needs. If she doesn't immediately have an answer to a question, she will contact Trent Parker, SRC Chair, myself, or other committee members. See Caryl's contact information on the back page of the newsletter.

We hope these changes will aid you in the Fair process. Best of luck in the coming year with all your students and I hope to see you at the Fair!

Carol Dostal  
NEIRSEF Director

## Awards

In the Elementary Division (grades K-5), students who place first in their grade level win the Friedel Director's Award, which includes a cash prize. Other awards include the Most Promising Young Scientist Award for the top placing elementary division student, and special awards from local professional and community organizations.

Students in the Junior (grades 6-8) and Senior (grades 9-12) Divisions are eligible to win awards from both local and national organizations. These include scholarships, cash awards, gift certificates, the United States Armed Forces awards, and others from national organizations. In March 2006, 113 awards were given out at the regional fair, encompassing all age groups. Of those, 71 included a cash prize in addition to one \$500 scholarship.

The top three senior and junior division students are eligible to attend the Hoosier State Science and Engineering Fair (HSEF). In addition, the top two senior division students also qualify to attend the Intel International Science and Engineering Fair (ISEF). In 2007, the ISEF will be held in Albuquerque, New Mexico from May 13-18.

## **Local Scientific Review Committees (SRC)**

The NEIRSEF Steering Committee has approved the option for a school or school system to set up a local SRC for Jr. Division (grades 6-8) projects provided the school follows these procedures:

- the committee meets all ISEF guidelines for SRC's
- the local Chair or school representative attends an SRC orientation meeting
- the school completes the SRC Contract and submits it for approval by the Regional Fair by the end of the current year

If you are interested in learning more about this option, please contact Carol Dostal or Trent Parker.

**Postmarked deadline for SRC contract to be submitted to the Regional Fair is December 30, 2006.**

# Route to Junior/Senior Eligibility: Pre-Experimentation Review or Exempt from Review?

2 Routes

Any answers Yes=  
Pre-Review

All answers No=  
Exemption

Go to the Science and Engineering Fair website to begin the online process <http://www.ipfw.edu/scifair/OnlineEligibilityForms.htm>

**Step 1:** You must complete the Questionnaire to access the Online Eligibility Forms. Fill in student information and answer the 6 questions in the Pre-Experimentation Review Questionnaire.

If **ALL** of your answers were "NO", a page confirming Questionnaire submission will appear with a link to the on-line [Exemption Form](#)

**Step 2:** **CLICK on this Exemption Form link**

- PRINT and follow directions
- SUBMIT via the web

**Step 3:** MAIL the form with original signatures to the Program Assistant at IPFW by March 2, 2007 deadline.

**OR**

If **ANY** of your answers were "YES", a page confirming Questionnaire submission will appear with a link to the [Pre-Review Cover Sheet](#)

**Step 2:** **CLICK on this Pre-Review Cover Sheet link**

- PRINT and follow directions
- SUBMIT via the web

**Step 3:** MAIL cover sheet and required project paperwork with original signatures to the Program Assistant at IPFW by January 24, 2007 deadline.

**IF YOUR PROJECT REQUIRES PRE-EXPERIMENTATION REVIEW BY COMMITTEE, DON'T BEGIN RESEARCH UNTIL THE PROJECT HAS BEEN REVIEWED AND RETURNED.**

**NEW THIS YEAR:** The Exemption and Pre-Experimentation Review coversheet will automatically be filled out **if you finish all of the steps in the process immediately after filling out the questionnaire**. An email confirmation will be sent to the teacher with the student's ID Number. **SAVE THIS EMAIL.** The URL on the email will enable the teacher to access this student's record as needed.

For a copy of the International Rules and Guidelines for the Intel International Science and Engineering Fair

<http://www.sciserv.org/isef/document/index.asp>

Research Area	Defined	Examples	Pre-approval Required?
<b>Human Subjects</b>	Any project studying humans including: <ul style="list-style-type: none"> <li>• subjects participating in physical activities</li> <li>• psychological and opinion studies (any questionnaire used)</li> <li>• behavioral observations</li> <li>• If the researcher is the study of the research, the project falls under the human subjects rules.</li> </ul>	<ul style="list-style-type: none"> <li>• Do boys or girls hearts beat faster after exercise?</li> <li>• Do people prefer living in the city or country?</li> </ul>	<b>YES</b>
<b>Vertebrate Animals</b>	Live, nonhuman vertebrate mammalian embryos or fetuses, bird and reptile eggs within three days (72 hours) of hatching, and all other nonhuman vertebrates at hatching or birth.	<ul style="list-style-type: none"> <li>• What is the best method to train my dog to sit?</li> <li>• How long does it take for a rat to learn to run a maze?</li> </ul>	<b>YES</b>
<b>Potentially Hazardous Biological Agents</b>	Projects incorporating microorganisms (including bacteria, viruses, viroids, prions, rickettsia, fungi (mold), and parasites), recombinant DNA (rDNA) technologies or human or animal fresh tissues, blood, or body fluids may involve working with potentially hazardous biological agents.	<ul style="list-style-type: none"> <li>• Which foods get moldy the fastest?</li> <li>• How much pollution is in the air?</li> <li>• Using plant antibiotic properties to control the growth of bacteria.</li> </ul>	<b>YES</b>
<b>Hazardous chemicals, activities or devices</b>	Controlled substances, including DEA classed substances, prescription drugs, consumable ethyl alcohol, and tobacco. Hazardous chemicals and equipment, firearms, radioactive substances and radiation. Differentiation between hazardous and non-hazardous chemicals can best be determined by utilizing the Materials Safety Data Sheets (MSDS).	<ul style="list-style-type: none"> <li>• How does the temperature of a paintball affect the distance it goes when shot?</li> <li>• How to design a potato cannon to shoot farther.</li> <li>• Does beer make plants grow faster?</li> </ul>	<b>NO</b>

SRC Pre-Experimentation Review  ISEF 2006-2007 Required Forms	1 - Checklist for Adult Sponsor	1A- Student Checklist Individual or Team	Research Plan Attachment	1B - Approval Form	1C - Regulated Research Institution Form	2 - Qualified Scientist Form	3 - Risk Assessment Form	4 - Human Subjects Form	5A - Vertebrate Animal Form	5B - Vertebrate Animal Form	6A - Potentially Hazardous Biological Agents Form	6B - Human and Vertebrate Animal Tissue Form	Form 7 - Continuation Projects Form
	Human Subjects	•	•	•	•	*	*		•				
Vertebrate Animals (non-regulated site) <sup>1</sup>	•	•	•	•		*			•				
Vertebrate Animals (regulated research institution)	•	•	•	•	•	•				•			
Human and Vertebrate Animal Tissue <sup>2</sup>	•	•	•	•	*	*					•	•	
Potentially Hazardous Biological Agents	•	•	•	•	*	*					•	*	
Controlled Substances <sup>3</sup>	•	•	•	•	*	*	•						
Hazardous Chemicals, Activities or Devices	•	•	•	•	*	*	•						
Continuing Project	•	•	•	•	*								•

\* if applicable to research project (see ISEF Rule Book for further details)  
<sup>1</sup>For vertebrate animals in a non-regulated site, a veterinarian, designated supervisor, and qualified scientists may be required.  
<sup>2</sup> a sub-category of Potentially Hazardous Biological Agents      <sup>3</sup> a sub-category of Hazardous Chemicals, Activities or Devices

## Avoid These Common Paperwork Pitfalls

- ◆ Required forms are missing or incomplete including signatures and checkboxes that are not filled in  
Use the ISEF Rules Wizard or the SRC Pre-Experimentation Review Required Form chart above to determine which forms are required for a student's project. At minimum, Forms 1, 1A, 1B and the Research Plan Attachment are required. ALL portions of the form must be completed. Missing signatures, blank sections, and other missing information cause delays in approval.
- ◆ Incorrect date information on Student (or Team) Checklist Form (1A)  
The Student Checklist has spaces for "Projected Start/End Date" and "Actual Start/End Date." The **Actual** Start and End Dates should not be filled in on the pre-experimentation review as experimentation can not begin before the project is approved.
- ◆ Research Plan Attachment lacks sufficient information about the method and bibliography is missing  
Students need to give enough information on the Research Plan Attachment so the SRC can understand exactly what the student is going to do and how they are going to do it. The SRC will not guess, so it is better to give more detail than less! Also, students need to list the resources they used when determining what to study. This way, the SRC can tell if the student is using credible resources when planning the experiment.
- ◆ Not including Qualified Scientist/Designated Supervisor Form (2) with required signatures when needed  
Consult the 2006-2007 ISEF Rule Book on page 11-12 for clarification of roles and responsibilities of Students and Adults.
- ◆ Not allowing enough time for the Pre-Experimentation Review process  
During this time your paperwork travels off-site to various SRC and/or IRB members. Allow 7-14 business days for approval. If the student's paperwork is incomplete and is returned to the teacher, additional time will be needed. Remember that research can not begin until the pre-review paperwork is approved.
- ◆ Inappropriate work site noted on Research Plan Form (1A)  
ISEF strictly prohibits students from working with potentially hazardous biological agents in their homes. Such projects must be conducted in an appropriate work space as defined by ISEF (see pages 21-23)
- ◆ Human Subjects Form (4) not used correctly  
When a student is using human subjects, the student must have their project pre-reviewed by the SRC BEFORE starting any part of the experiment. Once all the required SRC signatures are on the Human Subjects Form (4), the students must then copy the form and have all the subjects involved in the experiment sign and date it.

WHEN IN DOUBT, CONTACT THE EDUCATOR LIAISON OR THE SRC CHAIRPERSON!

# Important Deadlines

**5 p.m., Wednesday, January 24, 2007:** Deadline to submit 6th–12th grade students' projects for the Pre-Experimentation Review by the NEIRSEF SRC. (*Deadline applies to projects that are being submitted for first or subsequent reviews.*)

**5 p.m., Friday, March 2, 2007:** Deadline to submit SRC Pre-Experimentation Review Exemption Form for 6th–12th grade students' projects that DO NOT require pre-experimentation review. Form is completed on-line, and the hard copy printed, signed, and sent to Fair Liaison.

**5 p.m., Friday, March 2, 2007:** Junior and Senior Division (6–12) Registration Deadline for regional fair. Registration must be completed on-line by students' teachers and the \$10 entry fee received by 5 p.m.

**LATE REGISTRATIONS WILL NOT BE ACCEPTED.**

Project paperwork and **completed** project abstract for junior and senior division (6–12) students coming to the regional fair must be received for Final SRC review.

**5 p.m., Friday, March 9, 2007:** Elementary Division (K–5) Registration deadline for regional fair. Registration must be completed on-line by students' teachers and the \$10 entry fee received by 5 p.m.

**LATE REGISTRATIONS WILL NOT BE ACCEPTED.**

**Saturday, March 17, 2007:** 52nd Annual Northeast Indiana Regional Science and Engineering Fair, Gates Sports Center, IPFW campus.

Northeast Indiana Regional Science & Engineering Fair  
[www.ipfw.edu/scifair](http://www.ipfw.edu/scifair)

# NEIRSEF Contact Information

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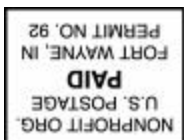
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Hoosier State Science & Engineering Fair  
[www.sefi.org](http://www.sefi.org)

Intel International Science and Engineering Fair  
<http://www.sciserv.org/isef/>

Have you affiliated as an Educator for 2006-2007 at [www.ipfw.edu/scifair?](http://www.ipfw.edu/scifair?)



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