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# DATA ANALYSIS FOR SCIENCE FAIR PROJECTS

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**Saturday, October 29, 2005**

**1:00 – 5:00 pm**

**Penn State - Harrisburg**

**Middletown PA**

**Olmstead Bldg Auditorium**

A workshop for junior (and senior) high school students and their teachers who want to learn more about data analysis, statistical methods, and data presentation techniques for improving science fair projects.

*Sponsored by*

The American Statistical Association,  
Harrisburg Chapter ([cs.hbg.psu.edu/asa-hbg/](http://cs.hbg.psu.edu/asa-hbg/))  
Indiana University of Pennsylvania,  
Mathematics Department  
Capital Area Institute for Mathematics and Science,  
Penn State – Harrisburg.

*In cooperation with*

Capital Area Science and Engineering Fair  
York County Science and Engineering Fair

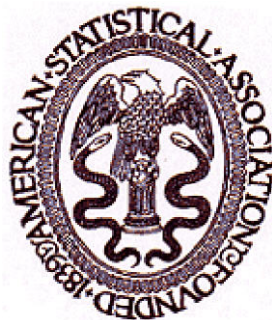
## THE WORKSHOP

So you're planning your science fair project, identifying the hypotheses, planning your experiments (with replication, of course!), and anticipating your data.

Statistics can play a role both in the design and the analysis for your experiment. Planning a careful study, analyzing the data, critically evaluating the hypotheses, and preparing the results for presentation can all be rewarding parts of your project.

At this workshop, you will learn about the nature of uncertainty in experimentation, and how to plan for it, measure it and account for it in interpreting your results. You will learn about statistical methods for comparing data and testing your hypotheses. You will see examples and learn how to present your data accurately and effectively.

There is no math prerequisite for this workshop. What you learn here will enable you to explore these tools and techniques on your own, at your own level. Whether this is your first project or you are a veteran researcher, this workshop will be a great opportunity. The reward is a more complete and convincing science fair project.



## DIRECTIONS TO PENN STATE-HBG

[www.mathscience.psu.edu/activities/map.htm](http://www.mathscience.psu.edu/activities/map.htm)

## THE PRESENTER

**Dr. Thomas H. Short**

Associate Professor  
Mathematics Department

Indiana University of Pennsylvania

Co-founder and Organizer,  
Pennsylvania Statistics Poster Competition  
([www.math.iup.edu/PAposters/](http://www.math.iup.edu/PAposters/))

Judge, George Washington Carver Science Fair  
Philadelphia, PA, 1999 through 2002

Editor, Journal of Statistics Education  
([www.amstat.org/publications/jse](http://www.amstat.org/publications/jse))

BS in Mathematics with a minor in Probability and Statistics  
from John Carroll University, MS and PhD in Statistics  
from Carnegie Mellon University

Active in presenting and organizing workshops about-  
statistics for K-12 teachers and college mathematics  
faculty

**Students – ask your teachers  
to come along!**

## REGISTRATION

**There is no charge to attend this workshop, but pre-registration is required.** To register, please email your name, school, and grade level to:

[JohnMRinehart@alumni.pitt.edu](mailto:JohnMRinehart@alumni.pitt.edu)

Confirmed registration due by **October 15, 2005.**

For further information call: (717) 292-1636

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