HUNTSVILLE ELECTRO-OPTICAL SOCIETY

11 March 2015

61th North Alabama Regional Science and Engineering Fair
Special Awards in Optics and Photonics

The Huntsville Electro-Optical Society (HEOS) was able to award over $1000 in scholarships at the 61th North Alabama Regional Science and Engineering Fair (NARSEF) for Special Awards in optics and photonics related projects. The award funding was generously provided by SPIE, NASA, and HEOS. HEOS would like to thank all the volunteer judges for taking the time out of their schedules to participate in this event. The volunteer judges for this year were:

Tommy Cantey – Optical Sciences Corporation
Phil Stahl – NASA MSFC

These judges were responsible for evaluating the merit and application of optics in the science fair entries. All winners received SPIE or HEOS certificates and award scholarships. HEOS is greatly appreciative of the opportunity to help inspire the nation's future scientists and engineers. HEOS is about community and our optics community only works with continued dedication and participation of our membership.

SPIE Awards

Senior Division Awards

First Prize ($200) – Elena Smith
"Low-Cost Laser Scatterometer for Home Air Quality Measurement"
9th grade, Pope John Paul II High School, Madison
Sponsor Brian Finzel (EE-327)

Second Prize ($150) – Elizabeth Susan Allen
"Effects of Light on 3-Dimensional Photography"
11th grade, Pope John Paul II High School, Madison
Sponsor Brian Finzel (PH-357)

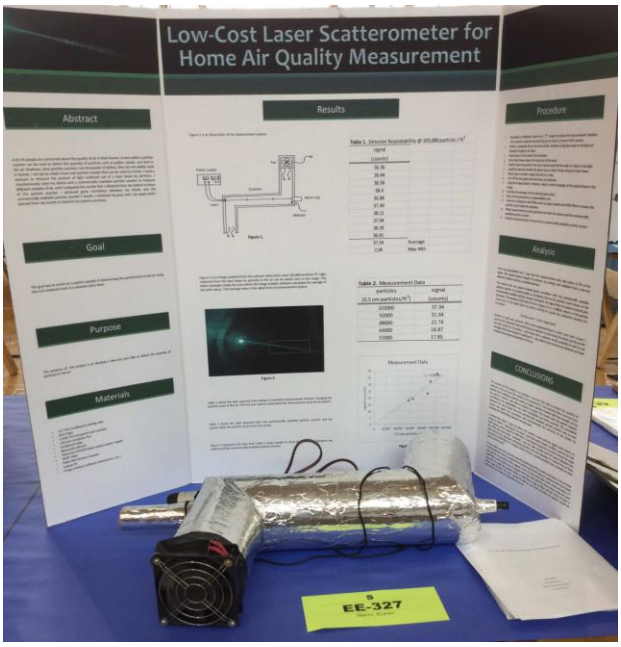
Third Prize ($50) – Bailee Michele Gann
"Hey! Let's Build a Microscope"
11th grade, Covenant Christian Academy, Huntsville
Sponsor Rhonda Lisauckis (EE-322)

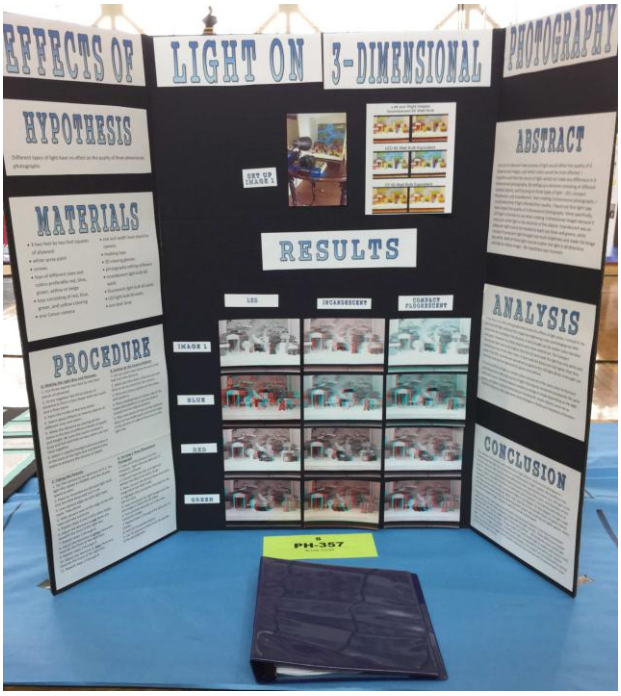
Honorable Mention
($100) – Lauren Schlosser
"Refraction Action"
10th grade, Pope John Paul II High School, Madison
Sponsor Brian Finzel (PH-364)

HEOS Awards

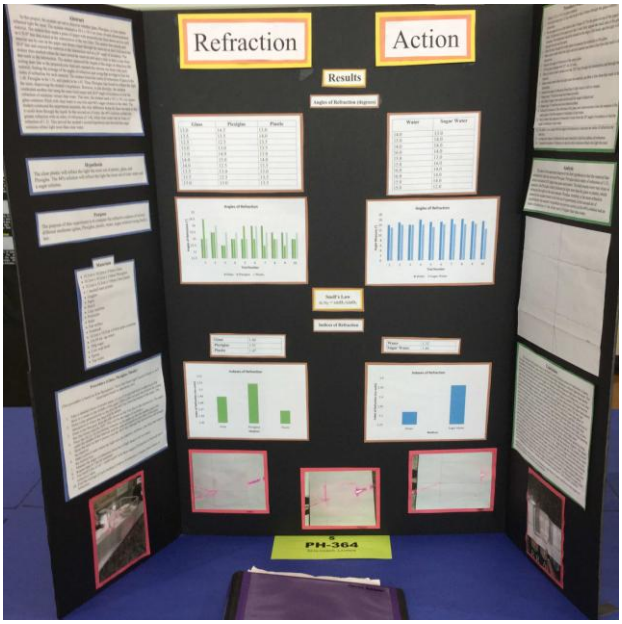
Senior Division Awards

Honorable Mention
($50) – Elaine Atha
"The Index of Refraction of Silk"
9th grade, Pope John Paul II High School, Madison
Sponsor Brian Finzel (PH-358)


Low-Cost Laser Scatterometer for Home Air Quality Measurement
Abstract
Goal
Purpose
Materials
Results
Procedure
Analysis
CONCLUSIONS
EE-327


EFFECTS OF
LIGHT ON
3-DIMENSIONAL
PHOTOGRAPHY
HYPOTHESIS
MATERIALS
PROCEDURE
RESULTS
ABSTRACT
ANALYSIS
CONCLUSION
PH-357


QUESTION
Can a working microscope that takes pictures be built using household tools and materials?
HEY! LET'S BUILD A MICROSCOPE
HYPOTHESIS
A working microscope can be built using household materials, and it will be able to take pictures using a smartphone.
MATERIALS
Plexiglas
Wood
Hex Nuts
Washers
Carriage Bolts
Drill Bit
Laser Pointer
Lens
Windows HTC 8x
PROCEDURE
CONCLUSION
A working microscope can be built using common items from around the house.
EE-322


Refraction
Action
Results
PH-364

HEOS Awards

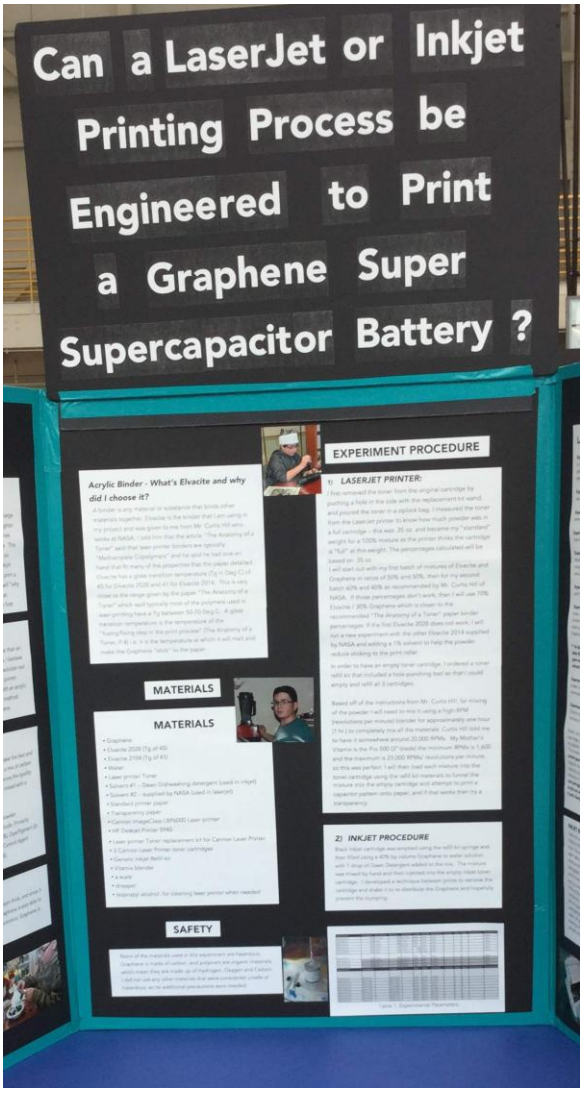
Junior Division Awards

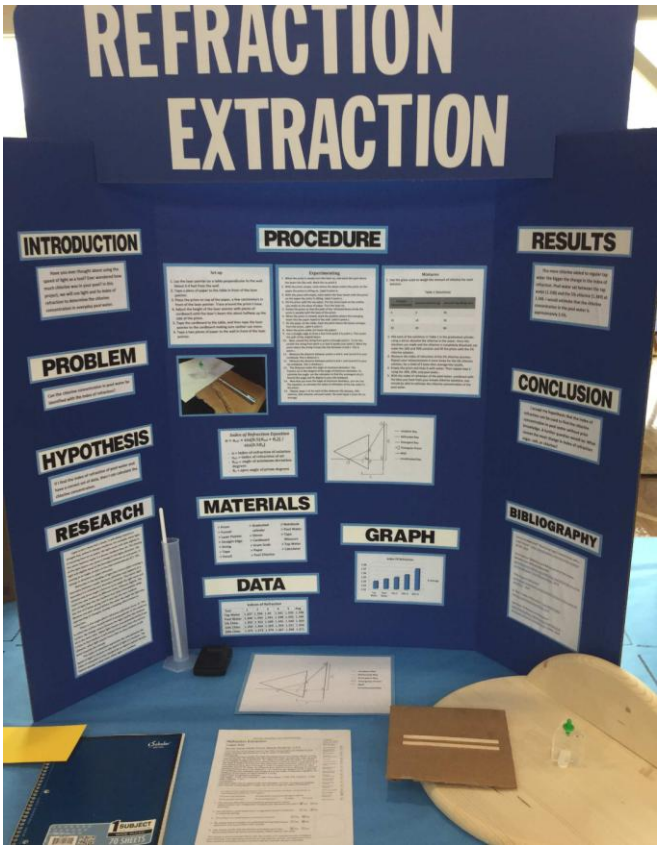
First Prize ($150) – Jordan Reynolds-Gleason
"Can a LaserJet or Inkjet Printing Process be Engineered to Print Graphene Super Capacitors" 7th grade, Grace Lutheran School, Madison,
Sponsor Taylor Ruff (PHS-274)

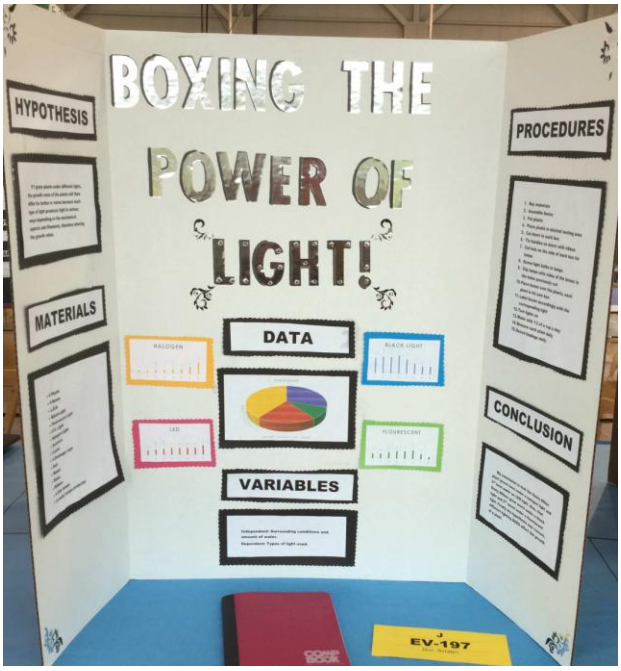
Second Prize ($100) – Caleb J. Kirk "Refraction Extraction"
8th grade, Muscle Shoals Middle School, Muscle Shoals, Sponsor Christina Crunk (PHS-263)

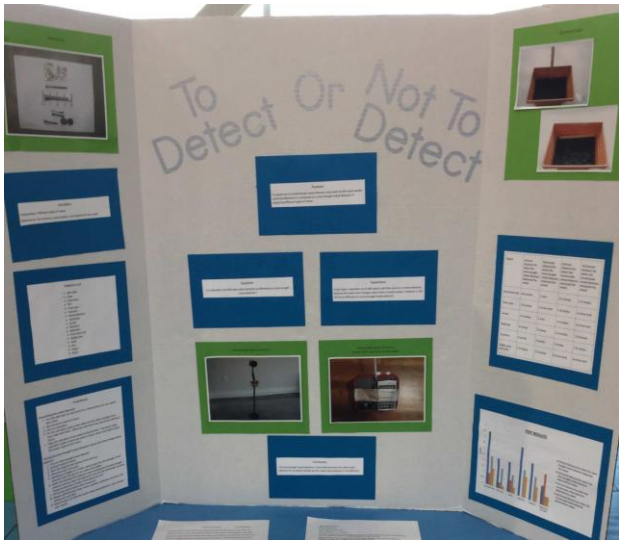
Third Prize ($75) – Sydney Michelle Guy "Boxing the Power of Light"
6th grade, Hampton Cove Middle School, Owens Cross Roads,
Sponsor Melissa Snider (EV-197)

Third Prize ($75) – John Rottenborn "To Detect or Not to Detect"
6th grade, Hampton Cove Middle School, Owens Cross Roads,
Sponsor Melissa Snider (MA&CS-213)


Can a LaserJet or Inkjet Printing Process be Engineered to Print a Graphene Super Supercapacitor Battery ?
EXPERIMENT PROCEDURE
MATERIALS
MATERIALS
SAFETY


REFRACTION EXTRACTION
INTRODUCTION
PROCEDURE
RESULTS
PROBLEM
CONCLUSION
HYPOTHESIS
RESEARCH
MATERIALS
GRAPH
BIBLIOGRAPHY
DATA


BOXING THE POWER OF LIGHT!
HYPOTHESIS
PROCEDURES
MATERIALS
DATA
CONCLUSION
VARIABLES
EV-197

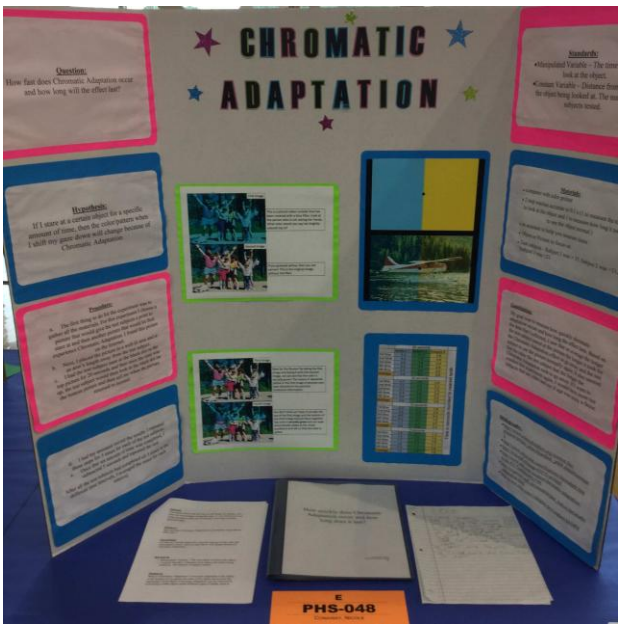

To Detect Or Not To Detect

HEOS Awards

<u>Elementary Division Awards</u>

First Prize ($50) – Josiah Kristian Parker
"Arrow of Illusion (Refraction & Magnification"
5th grade, Columbia Elementary School, Madison, Sponsor Lisa Grice (BE-005)

Second Prize ($25) – Nicole Courtney Conaway
"How Quickly does Chromatic Adaption Occur and How Long Does it Last?"
5th grade, Columbia Elementary School, Madison, Sponsor Lisa Grice (PHS-048)



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