Program: Parents’ Night Out

Date: February 12; March 25; April 8; September 30; October 21

Description: Parents’ Night Out is an opportunity for parents to have an evening to themselves and peace of mind knowing their children are in a safe, secure, and FUN environment. The children have the opportunity to construct and program LEGO robots, design a K-Nex amusement park ride, watch educational videos, and engage in puzzles, word games, and educational board games.

Personnel:

- AU: Mary Lou Ewald, Kathy Feminella, Chelsea Harrison, Casey Mitchell, Tj Nguyen, Approximately 15 volunteers from the Society of Women Engineers (SWE) and the Association for Women in Science (AWIS)

Total Number of Students: 61

Age Range: 6-12

Facilities: SCC, Parker Hall

February 12, 2011
Number of students: 13

March 25, 2011
Number of students: 8

April 8, 2011
Number of students: 23

September 30, 2011
Number of students: 9

October 21, 2011
Number of Students: 8
Program: Science Olympiad- Middle School (Division B)

Date: Saturday, February 19, 2011; 7:30 am - 4 pm

Description: Regional Middle School Olympiad

Personnel:
- **AU:** Mary Lou Ewald, Kathy Feminella, Dr. Steve Stuckwisch, Lara Stubbs, Chris Sunderman, Stuart Loch, Mark Liles, Paul Noorgard, Xiaoying Han, Molli Newmam, Ashraf Uddin, Brian Helms, Dimitri Glotov, Ron Lewis, TY Tam, Huajan Huang, Mike Fogle, Geof Hill, Minseo Park, Josh Inwood, Virginia Davis, Claude Ahyi, Teck Lee, William Maddox, Erkan Nane, Yanzaho Cao, Bob Lishak, Sam Chang, Peter Nylen, Conner Balance, Casey Mitchell, TJ Nguyen, Chelsea Harrison, Allison Holt, David King
- **Non-AU:** N/A

Schools Impacted: Auburn Junior High School, Baldwin Arts and Academics Magnet, Beverleye Magnet School, Carver Magnet School, Clanton Middle School, Drake Middle School, Geneva Middle School, Marion Academy, Millbrook Middle Junior High School, Montgomery Catholic, Pleasant Grove Middle School, Prattville Christian, Wacoochee Junior High, Zora Ellis

Total Number of Students: approx. 350
- **Age Range:** 5th-8th grade
- **Facilities:** AU Student Center, Parker Hall, SCL, SCC, Rouse Life Sciences, Petrie Hall, Haley Center

Science Olympiad (Division B)
Program: Getting Under the Surface (G.U.T.S.)

Date: Tuesday, February 22, 2011; 6:00 pm - 8:00 pm

Description: Parent/Child teams act as lab partners in a 75-90 minute science activity.

Personnel:
- **AU**: Mary Lou Ewald, Kathy Feminella, TJ Nguyen, Casey Mitchell
- **Non-AU**: Katie Davis-Drake Middle School

Schools Impacted: N/A
- **Total Number of Students**: 21
- **Total Number of Parents**: 21
- **Age Range**: 1st-6th Grade

Facilities: Parker Hall 307, SCL 323 & 327

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**Flash, Boom, Pour**
- Instructed by: Katie Davis
- Number of Students: 11 (8 reporting on survey)
- Student Satisfaction Ranking: 4 (out of 5)
- Parent Satisfaction Ranking: 4 (out of 5)
- Age Range: 1st-3rd Grade

**Don’t Catch That Germ**
- Instructed by: Casey Mitchell
- Number of Students: 8 (6 reporting on survey)
- Student Satisfaction Ranking: 5 (out of 5)
- Parent Satisfaction Ranking: 5 (out of 5)
- Age Range: 4th-6th Grade

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How did you hear about G.U.T.S.?

- **AU Daily**: 29%
- **Other E-mail**: 7%
- **Past Participant**: 57%
- **Other**: 7%
Program: Tests of Engineering Aptitude, Mathematics, and Science (TEAMS) Competition

Date: Friday, February 25, 2011; 1:00 pm- 5:00 pm

Description: Tests provided by the Junior Engineering Technical Society (JETS)

Personnel:
- AU: Mary Lou Ewald, George Blanks, Kathy Feminella, Casey Mitchell, Allison Holt, Chelsea Harrison, TJ Nguyen
- Non-AU: N/A

Schools Impacted: Central Education Center, Columbus High School, Grissom High School, Hanceville High School, Montgomery Catholic Preparatory School, Northside High School, Randolph School

Total Number of Students: 76
- Age Range: 9th – 12th grade

Facilities: AU Student Center Ballroom

Sponsorship: supported by participant fees

Winners:
- 9/10 Division
  - Montgomery Catholic Preparatory School B

- 11/12 Division
  - 1st- Randolph School
  - 2nd- Columbus High School
  - 3rd- Grissom High School

Smarter Energy. Cleaner Planet.
Program: Spring Youth Experiences in Science (Y.E.S.)

Date: Saturday, March 5th; 7:45 am - 12:00 pm

Description: Each child participated in hands-on, make-and-take activities related to specific fields of science and math in a half-day academy.

Personnel:
- AU: Mary Lou Ewald, Kathy Feminella, Chelsea Harrison, Casey Mitchell, Linda Pastorello, Andrew Henley
- Non-AU: Frank Ware (Sanford Middle School), Gina Watkiss (The Heritage School)
- Schools Impacted: N/A
- Total Number of Students: 129
- Age Range: 3rd-6th Grade

Facilities: SCL 102, 231, 310, 323, 327

Slimy Toys at Hogwarts
- Instructor: Gina Watkiss, The Heritage School
- Number of Students: 50
  - Course 1- 25 students
  - Course 2- 25 students

Art in Science
- Instructor: Andrew Henley, Jule Collins Smith Museum of Fine Art
- Number of Students: 50
  - Course 1- 25 students
  - Course 2- 25 students

LEGOMania!
- Instructor: Frank Ware, Sanford Middle School
  - Number of Students: 40
  - Course 1- 20 students
  - Course 2- 20 students

Tigers for Tigers
- Instructor: Linda Pastorello, AU Biological Sciences Dept
- Number of Students: 49
  - Course 1- 24 students
  - Course 2- 24 students

Don’t Catch That Germ!
- Instructor: Casey Mitchell, COSAM Outreach Program Specialist
- Number of Students: 41
  - Course 1- 21 students
  - Course 2- 20 student
Program: Getting Under the Surface (G.U.T.S.)

Date: Tuesday, March 29, 2011; 6:00 pm - 8:00 pm

Description: Parent/Child teams act as lab partners in a 75-90 minute science activity.

Personnel:
- AU: Mary Lou Ewald, Kathy Feminella, Casey Mitchell, Allison Holt
- Non-AU: Frank Ware – Retired School Teacher (Sanford Middle School), Gina Watkiss – The Heritage School, Erin Percival – Drake Middle School

Schools Impacted: N/A
- Total Number of Students: 17
- Total Number of Parents: 17
- Age Range: 1st-6th Grade

Facilities: Parker Hall 307, SCL 231, 310, & 323

Bubble Magic
- Instructed by: Gina Watkiss
- Number of Students: 5 (3 reporting on survey)
- Student Satisfaction Ranking: 4.3 (out of 5)
- Parent Satisfaction Ranking: 5 (out of 5)
- Age Range: 1st - 3rd Grade

LEGO-Mania!
- Instructed by: Frank Ware
- Number of Students: 7 (3 reporting on survey)
- Student Satisfaction Ranking: 5 (out of 5)
- Parent Satisfaction Ranking: 4.7 (out of 5)
- Age Range: 4th-6th Grade

Race to the Sun
- Instructed by: Erin Percival
- Number of Students: 4
- Student Satisfaction Ranking: 5 (out of 5)
- Parent Satisfaction Ranking: 5 (out of 5)
- Age Range: 4th-6th Grade

Participant Feedback (All courses combined)

- Did the child learn something new?
- Did the parent learn something new?
- Did the instructor interact well with the participants?
- Is the program a good value for the cost?
Program: Science Olympiad- Elementary School (Division A)

Date: Saturday, April 2, 2011 7:30 am- 4 pm

Description: Regional Elementary School Olympiad

Personnel:
- AU: Mary Lou Ewald, Kathy Feminella, Dr. Greg Harris, Allison Holt, Chelsea Harrison, Casey Mitchell, TJ Nguyen,
- Non-AU: N/A


Total Number of Students: approx. 580
- Age Range: 3rd – 6th grade

Facilities: AU Student Activities Center, Parker Hall, SCL, and Rouse Life Sciences
Program: BEST World Championship

Date: April 14-16, 2011

Location: ESPN Wide World of Sports Complex at Walt Disney World, Kissimmee, Florida

Description: A middle and high school robotics competition open to winning teams from other regional championships in the United States.

Executive Planning Committee:

- Mary Lou Ewald - War Eagle/South’s BEST (Auburn, AL)
- George Blanks – War Eagle/South’s BEST (Auburn, AL)
- Greg Young – Capitol BEST (Austin, TX)
- Garry and Janne Ackerman - CoCo BEST (Dallas, TX)

Schools Impacted:

Ambassadors for Christ Academy – Bentonville, AR
Anna High School – Anna, TX
Birdville CTAL – North Richland Hills, TX
Caddo Mills High School – Caddo Mills, TX
Central High School – Philadelphia, PA
Central Magnet School – Murfreesboro, TN
Conway High School – Conway, MO
Decatur-Austin Robotics Coalition (DARC) – Decatur, IL
Dickson Area Robotics Team (DART) – Dickson County, TN
Ereckson Middle School – Allen, TX
Kansas City Christian School – Prairie Village, KS
Kittson Central High School – Hallock, MN
Lausanne Collegiate School – Memphis, TN
Liberal Arts & Science Academy – Austin, TX
Merrol Hyde Magnet School – Hendersonville, TN
Metro Homeschool – Blue Springs, MO
Oak Mountain High School – Birmingham, AL
OCK Homeschool – Oklahoma City, OK
REACH Homeschool – Moorhead, MN
United Engineering Technology Magnet – Laredo, TX
Westlake High School – Austin, TX
Wetumpka High School – Wetumpka, AL

2010 Game Description: TOTAL RECALL

Goal: Create a robot that is able to successfully process and package as much “good” product as possible while striving for Six Sigma quality levels on each of two independent production lines. Product identified as “defective” are “recalled”. Products to be packaged:

- Gadgets – represented by black, yellow, and white golf balls
- Gizmos – represented by magnetic and non-magnetic Easter eggs
Process Sigma (\( \sigma \)) is calculated for each production line based upon the number of defects per million opportunities (DPMO). A \( \sigma = 6 \) is the highest achievable. The process Sigma is used as a point multiplier for all product that has been processed during a production run.

**Team Score** = \( (\text{Gadget Pts} \times \sigma_{\text{gadget}}) + (\text{Gizmo pts} \times \sigma_{\text{gizmo}}) + \text{Bonus Pts} \).

Placing defective Gadgets in the Product Recall Trailer and moving it to the Product Recall Center removes these defects from the Sigma calculation, boosting the Sigma multiplier.

**2011 Game Winners**

**BEST Award**
- 1\textsuperscript{st}: Metro Homeschool – River Valley BEST
- 2\textsuperscript{nd}: DARC– Tennessee Valley BEST
- 3\textsuperscript{rd}: OKC Homeschool – Oklahoma BEST

**Robotics**
- 1\textsuperscript{st}: REACH Homeschool – Bison BEST
- 2\textsuperscript{nd}: Central Magnet School – Music City BEST
- 3\textsuperscript{rd}: Metro Homeschool – River Valley BEST
- 4\textsuperscript{th}: Ambassadors for Christ Academy – Kansas BEST
Category Awards

Best Marketing Presentation Award
• 1st: DARC – Tennessee Valley BEST
• 2nd: Wetumpka High School – War Eagle BEST
• 3rd: Oak Mountain High School – Blazer BEST

Best Team Exhibit and Interview Award
• 1st: OKC Homeschool – Oklahoma BEST
• 2nd: Ereckson Middle School – CoCo BEST
• 3rd: United Engineering Technology Magnet – San Antonio BEST

Best Project Engineering Notebook Award
• 1st: Metro Homeschool – River Valley BEST
• 2nd: OKC Homeschool – Oklahoma BEST
• 3rd: Central High School – Philadelphia BEST

Best Spirit and Sportsmanship Award
• 1st: Metro Homeschool – River Valley BEST
• 2nd: Oak Mountain High School – Blazer BEST
• 3rd: Wetumpka High School – War Eagle BEST

Best T-shirt design
• 1st: Metro Homeschool – River Valley BEST
• 2nd: Ereckson Middle School – CoCo BEST
• 3rd: Oak Mountain High School – Blazer BEST

Robot Awards
Founders Award for Creative Design: (give in honor of the two founders of BEST, Steve Marum and Ted Mahler)
• 1st: DARC – Tennessee Valley BEST
• 2nd: Ambassadors for Christ Academy – Kansas BEST
• 3rd: REACH Homeschool – Bison BEST

Most Robust Robot: (needed the least amount of repairs)
• 1st: REACH Homeschool – Bison BEST
• 2nd: DARC – Tennessee Valley BEST
• 3rd: Westlake High School – Capitol BEST

Most Elegant Robot: (the machine that performs its function the most effectively)
• 1st: Central Magnet School – Music City BEST
• 2nd: DART – Music City BEST
• 3rd: Ambassadors for Christ Academy – Kansas BEST

Most Photogenic Robot: (the beauty contest)
• 1st: Central Magnet School – Music City BEST
• 2nd: Kittson Central High School – Bison BEST
• 3rd: Birdville CTAL – Cowtown BEST

Special Competition Awards
Team Exhibit Design and Construction Award (awarded to the team with the most creative an innovative exhibit design)
• Ereckson Middle School – CoCo BEST
MathWorks Best Programming Skills Award
  • DARC – Tennessee Valley BEST
SolidWorks CAD Design Award
  • 1st: REACH Homeschool – Bison BEST
  • 2nd: DARC – Tennessee Valley BEST
  • 3rd: Wetumpka High Scholl – War Eagle BEST
Best Team Video Award
  • 1st: United Engineering Technology Magnet – San Antonio BEST
  • 2nd: Central High School – Philadelphia BEST
  • 3rd: Kittson Central High School – Bison BEST

The 2011 BEST World Championship sponsors:

MathWorks

Mississippi State University

SolidWorks
Program: AU Explore

Date: Friday, April 29, 2011, 8:00 am - 3:00 pm

Description: Science and Mathematics Open House

Personnel:
- **AU:** Mary Lou Ewald, Kathy Feminella, George Blanks, TJ Nguyen, Chelsea Harrison, Allison Holt, and, Casey Mitchell
- **Non-AU:** Kristy Mann, Terri Rubio,

Schools Impacted: Barron School, Cary Woods Elementary, Dean Road Elementary, Dixie Elementary, J.F. Drake Middle School, Eagle Ranch School, Everest Academy, Lakeview Christian, Morris Avenue, Northside Intermediate, Oak School, Ogletree Elementary, Pintlala, South Girard Junior High School, Valleydale Homeschool, Veritas Christian Academy, Williams Intermediate, Wrights Mill Elementary, Yarbrough Elementary

Total Number of Participants: approx. 1350
- **Age Range:** 5th - 8th grade

Facilities: Parker Hall, SCL, Chemistry Building, Rouse Life Sciences, Parker Lawn

The EXPO- 9:00 - 12:00 - The EXPO is a series of dozens of interactive displays sponsored by each of the departments that comprise the College of Sciences and Mathematics (COSAM) at Auburn – Math/Statistics, Physics, Biology, Chemistry/Biochemistry, and Geology/Geography. Students browsed the displays at their own pace and were able to see, touch, hear, and smell the many wonders of science and math! Included in the Science EXPO are live animal displays, featuring snakes, lizards, turtles, spiders, insects, and many more fascinating creatures!

- Aaron Rashotte Lab
- Jon Armbruster Lab
- Nanette Chadwick Lab
- Debbie Folkerts Lab
- Chris Goldsmith
- Ken Halanych Lab
- Wendy Hood Lab
- Shawn Jacobsen
- Allen Landers Lab
- Mark Liles
- Bryan McMeen (student) and the Math Club, Math Graduate Students
- Scott R. Santos Lab
- James Saunders
- John Simms
- Kaye Storey and Faculty
- Ed Thomas Lab
Science Fun Shops- 9:00 - 2:00- The “Science Fun Shops” are short, hands-on mini-courses focused on a particular topic. The courses typically lasted about 45 minutes and had 25-800 participants.

- **All About Eyeballs**
  - Instructed by: Bob Lishak
  - 2, 45 minute courses; capacity: 30

- **Art in Science**
  - Instructed by: Andrew Henley
  - 3, 45 minute courses; capacity: 24

- **Bubble Mania**
  - Instructed by: Kristy Mann & Terri Rubio
  - 3, 45 minute courses; capacity: 27

- **Build a Kaleidoscope**
  - Instructed by: Erica Snipes
  - 3, 45 minute courses; capacity: 24

- **Build a Motor**
  - Instructed by: Matt Jones
  - 3, 45 minute courses; capacity: 24

- **Cartesian Diver**
  - Instructed by: Aaron Modic
  - 3, 45 minute courses; capacity: 30

- **Fur, Feathers, and Fins**
  - Instructed by: Matt Kearly
  - 2, 45 minute courses; capacity: 25

- **Genes in a Bottle**
  - Instructed by: Mark Liles, Cathy McVay, Les Goertzen
  - 4, 45 minute courses; capacity: 30

- **Match the Graph**
  - Instructed by: Matt Obley
  - 3, 45 minute courses; capacity: 25

- **Medical Technology**
  - Instructed by: Kat Milly West
  - 3, 45 minute courses; capacity: 50

- **Microscopic Wonders**
  - Instructed by: Roger Birkhead
  - 2, 45 minute courses; capacity: 24

- **Owl Pellets**
  - Instructed by: Christine Sundermann
  - 2, 45 minute courses; capacity: 24

- **Physics of Music**
  - Instructed by: Stuart Loch
  - 3, 45 minute courses; capacity: 50

- **Silly Cilia**
  - Instructed by: Tony Moss
  - 3, 45 minute courses; capacity: 24

- **Slimistry**
  - Instructed by: Paul Norgaard
  - 3, 45 minute courses; capacity: 30

- **Snap Electronics**
  - Instructed by: Corey Small
  - 2, 45 minute courses; capacity: 24

- **SunScreen or SunBurn?**
  - Instructed by: Beth Hickman
  - 3, 45 minute courses; capacity: 27

- **Survivor**
  - Instructed by: Brian Helms and Mollie Newman
  - 3, 45 minute courses; capacity: 30

- **We-Do LEGOS**
  - Instructed by: Marllin Simon
  - 2, 60 minute courses; capacity: 24

**Demo Shows- 9:00 – 2:00**

- Dr. Webb’s Magic Show- 9:00, 11:00
  - 60 minute sessions— seating capacity: 180
  - Dr. Thomas Webb, Professor Emeritus, Dept. of Chemistry / Biochemistry

- Raptor Show – 9:00, 10:00, 11:00
  - 60 minute sessions— seating capacity: 300
  - Southeastern Raptor Center

- Glass Blowing Show – 9:00, 10:00, 1:00
  - 60 minute sessions— seating capacity: 125
  - Matt Montgomery, Department of Chemistry/Biochemistry

- Herpetology Show – 10:00, 11:00
  - 60 minute sessions— seating capacity: 250
  - Michael Wines, Department of Biological Sciences
Participants by Department

**Biology**
- Aaron Rashotte Lab
- Jon Armbruster Lab
- Debbie Folkerts Lab
- Ken Halanych Lab
- Shawn Jacobsen
- Mark Liles
- Nanette Chadwick Lab
- Scott R. Santos Lab
- Wendy Hood Lab
- Mark Liles
- Cathy McVay
- Les Goertzen
- Bob Lishak
- Tony Moss
- Brian Helms
- Molli Newman
- Chris Sundermann
- Roland Dute
- Mike Miller
- Matt Kearly
- Mike Wines

**Chemistry/Biochemistry**
- Chris Goldsmith
- Wendall Sandlin
- Tom Webb
- Kat Milly West

**Geology and Geography**
- James Saunders
- John Simms

**Math/Statistics**
- Bryan McMeen (student) and the Math Club, Math Graduate Students

**Physics**
- Ed Thomas Lab
- Allen Landers Lab
- Dave Patrick
- Erica Snipes
- Aaron Modic
- Stuart Loch
- Matt Jones
- Corey Small
- Marlin Simon

**Science in Motion**
- Roger Birkhead
- Paul Norgaard
- Matt Obley

**AMSTI**
- Kristi Mann
- Terri Rubio
- Beth Hickman

**Vet-Med**
- Kaye Storey and Faculty
- Southeastern Raptor Center
Program: Science Matters

Dates:
- Tuesday, May 31- Friday, June 3
- Monday, June 5-Friday, June 10
- Monday, June 19-Friday, June 24
- Monday, June 27-Friday, July 1
- Monday, July 10-Friday, July 15
- Monday, July 24-Friday, July 29
- Monday, August 1-Friday, August 5

Times: Regular Day 8:00 am – 3:30 pm; Extended Day 8:00 am – 5:00 pm

Description: Science Matters is a summer enrichment program in which children attend themed weeks filled with experiments, field trips, and make-and-take projects. In addition, the program provided a platform for 24 education students from the AU College of Education to gain valuable classroom experience teaching science content.

Personnel:
- **AU:** Mary Lou Ewald, Erin Percival, Kathy Feminella, Chelsea Harrison, Lara Stubbs, Casey Mitchell, Molly Folkerts, Molly McCartney, Sarah Starr, Stanton Belford, Amy Rutherford
- **Non-AU:** Rebecca Balkcom-Auburn Jr. High School, Mark Jones-J.F. Drake Middle School, Frank Ware-Retired Samford Middle School, Gina Watkiss-The Heritage School, Hilary Boyd-Auburn Junior High School, Lisa Jones-J.F. Drake Middle School, Amanda Prince-Auburn Early Education Center, Jennifer Spencer-Cary Woods Elementary

Schools Impacted:
Beauregard Elementary, Berry Middle School, Bob Harding Shawmut School, Cary Woods Elementary, Dean Road Elementary, First Baptist Opelika Christian School, J.F. Drake Middle School, Jackson Intermediate School, Jones Valley Elementary, Jupiter Christian, Korea’s Elementary School (Seoul), Lanier Middle School, Lee-Scott Academy, Mom’s Avenue Intermediate, Northern Elementary School, Northside Intermediate, Ogletree Elementary, Richland Elementary, Smiths Station Elementary, Smiths Station Intermediate, Southview Primary, Teasley Elementary, The Donoho School, Trinity Christian School, Uance Elementary, Vestavia Hills Elementary West, Wrights Mill Road, Yarbrough Elementary

- **Total Number of Student Places Filled:** 330
- **Total Number of Students:** 168 students
- **Age Range:** rising 1st-6th grade

Facilities: Parker Hall

**Tuesday, May 31st-Friday, June 3rd**

*My Big Backyard*
- Instructor: Amanda Prince
- Grades: 1 – 2
- Total Number of Students: 22

*Invent It, Build It*
- Instructor: Jennifer Spencer
- Grades: 3 – 4
- Total Number of Students: 24
Will you consider sending your child to the Science Matters Academy next summer?

- **Yes**
- **Probably**
- **No, My child will be a rising 7th Grader**
- **No**

**Fur and Feathers**
- Instructor: Amy Rutherford
- Grades: 5 – 6
- Total Number of Students: 9

**Monday, June 5-Friday, June 10**

**Up, Up and Away**
- Instructor: Amanda Prince
- Grades: 1 – 2
- Total Number of Students: 22

**Fancy Fuel**
- Instructor: Mark Jones
- Grades: 3 – 4
- Total Number of Students: 16

**Hogwarts I**
- Instructor: Gina Watkiss
- Grades: 5 – 6
- Total Number of Students: 17

**Monday, June 19-Friday, June 24**

**Creature Features**
- Instructor: Amanda Prince
- Grades: 1 – 2
- Total Number of Students: 20

**From Farm to Food**
- Instructor: Rebecca Balkcom
- Grades: 3 – 4
- Total Number of Students: 24

**Ocean Explorers**
- Instructor: Stanton Belford
- Grades: 5 – 6
- Total Number of Students: 12

**Monday, June 27-Friday, July 1**

**Science Stew**
- Instructor: Amanda Prince
- Grades: 1 – 2
- Total Number of Students: 20

**LEGO Mania**
- Instructor: Frank Ware
- Grades: 3 – 4
- Total Number of Students: 24

**Monday, July 10-Friday, July 15**

**To Catch a Thief**
- Instructor: Mark Jones
- Grades: 3 – 4
- Total Number of Students: 29

**Animation Creation**
- Instructor: Rebecca Balkcom
- Grades: 5 – 6
- Total Number of Students: 11

**Monday, July 24-Friday, July 29**

**Slimy Science**
- Instructor: Gina Watkiss
- Grades: 3 – 4
- Total Number of Students: 24

**Race to the Sun**
- Instructor: Rebecca Balkcom
- Grades: 5 – 6
- Total Number of Students: 9

**Monday, August 1-Friday, August 5**

**The Biology of ME!**
- Instructor: Casey Mitchell
- Grades: 3 – 4
- Total Number of Students: 18

**An Egg-cellent Adventure**
- Instructor: Frank Ware
- Grades: 5 – 6
- Total Number of Students: 19
**Program:** Summer Youth Experiences in Science (Y.E.S.) Camp

**Date:** Monday, June 27\(^\text{th}\) - Thursday, June 30\(^\text{th}\) 2011

**Description:** Each child participates in hands-on, make-and-take activities related to specific fields of science and math in this four day academy.

**Personnel:**
- **AU:** Mary Lou Ewald, Kathy Feminella, Erin Percival, Chelsea Harrison, Casey Mitchell, Brian Helms, Virginia Davis, Trent Lishak, Molly Folkerts, Molly McCartney, Lara Stubbs, Katy Prince, Sarah Starr
- **Non-AU:** Gina Watkiss-The Heritage School, Rebecca Balkcom-Auburn Jr. High School, Mark Jones-J.F. Drake Middle School, Mike Smith-Auburn Jr. High School

**Schools Impacted:**
Auburn Junior High School, Baldwin Arts and Academic Magnet School, Barbara Bush Middle School, Berry Middle School, Chamblee Middle School, Crews Middle School, Demopolis Junior High School, Everest Academy, Five Forks middle School, Isidore Newman Middle School, J.F. Drake Middle School, Jackson Middle School, Lee-Scott Academy, Mauldin Middle School, Northview High School, Opelika Middle School, Saint James School, Sam Junior High School, Trinity Christian School, W.F. Burns Middle School, Wicksburg High School, Wilson Hall Middle School

- **Total Number of Students:** 46
- **Age Range:** rising 7\(^\text{th}\)-9\(^\text{th}\) grade

**Facilities:** SCL, Parker Hall

**Off The Wall Science**
- Instructed by: Gina Watkiss
- Number of Students: 18

**Genes and Biotechnology**
- Instructed by: Rebecca Balkcom
- Number of Students: 14

**Nano Science**
- Instructed by: Dr. Virginia Davis
- Number of Students: 11

**River Creatures**
- Instructed by: Dr. Brian Helms
- Number of Students: 13

**Electronic Kits**
- Instructed by: Mike Smith
- Number of Students: 14

**Soarin’ Skyrockets**
- Instructed by: Dr. Mark Jones
- Number of Students: 17
Program: BEST National Conference

Date: Thursday, July 21, 2011 - Saturday, July 23, 2011 8:00 am - 5:00 pm

Description: The national BEST conference for hub personnel and teachers.

Personnel:

- AU: Mary Lou Ewald, George Blanks, Kathy Feminella, Erin Percival, Chelsea Harrison, Casey Mitchell, Lara Stubbs, Molly Folkerts, Molly McCartney, Sarah Starr

- Non-AU: Regina Halpin

Total Number of Participants: approx. 175

- Age Range: Adults

Facilities: Auburn University Student Center, Sciences Center Classrooms Building, Sciences Center Auditorium, Auburn University Hotel and Conference Center

Thursday and Friday Sessions:

### 42 Days of BEST: Planning Your Work and Working Your Plan

Session Chair: George Blanks

#### Developing Effective Training Programs

Session Chair: Eric Heiselt
Presenter: Fred Stillwell

#### Elements of a Successful Team

Session Chair: Susan Haddock
Presenters: Virginia Vilardi, Lee Brownell

#### Fundraising Strategies and Resources for Hubs

Session Chair: Robin Fenton
Presenter: Janice Stewart

#### Keys to Winning: Strategies for the BEST Award

Session Co-Chairs: Jennifer Cox, Virginia Vilardi

#### Off-Season Robotics Program for K-12 Schools

Session Chair: Velda Morris
Presenters: Jane White, Deborah Wallace

#### Getting the Most from MathWorks

Session Chair: Greg Young

#### Awards & Judging: Developing a Systematic Approach

Session Chair: Mary Lou Ewald

The Engineering Design Process

Session Chair: Bob Boyle

Robot Construction and the Engineering Design Process

Session Chair: E.T. Hammerand
Presenter: Jim Walter

Effective Hub Management

Session Chair: Terry Grimley

Kit Management and Field Construction Solutions

Session Chair: Larry Gewax
Presenter: Bill Rock, Richard Gale, Ravi Techandani, David Vignes, and Alejandro Garcia

Curriculum Integration

Session Chair: Kathleen Geise
Presenter: Ken Berry

Understanding the Robot Design & Construction Process

Session Chair: Paul Lutes
Presenter: Michael Carroll

Best Practices: Hub Effectiveness and Efficiency

Session Chair: Mike Bright
Presenters: Jody Snow, John Robertson
Speakers:
Networking Luncheon
Featured Speakers: Wes Woods, Robin Fenton

Conference Banquet
Featured Speaker: J. Paul Wahnish

Saturday Software Training Workshops

EasyC
Instructor: Cliff Ratcliff, Learning Labs
Sessions Taught: 2, 3 hour sessions
Total Number of Participants: 25

SolidWorks
Instructor: Al Whitmaugh, InspirTech
Sessions Taught: 2, 3 hour sessions
Total Number of Participants: 42

ROBOTC
Instructor: Robin Shoop, Carnegie Mellon Robotics Academy
Sessions Taught: 1, 3 hour session
Total Number of Participants: 27

MathWorks
Instructor: Sandeep Hiremath, MathWorks
Sessions Taught: 2, 3 hour sessions
Total Number of Participants: 28
J. Paul Wahnish founded the Career Technical Education Foundation, Inc. (CTEF) in 2003. It originally began as a booster organization for the robotics club where he currently chairs the Academy of Engineering and teaches Project Lead The Way® courses, a nationally renowned curriculum for pre-engineering. Started in 2001, the booster organization transitioned into an integral support system for the Academy. The five-year business plan Paul set into action guided East Lake High School to the status of a model school for implementing career academies related to the STEM career clusters. The “Footprint for Sustainability” developed through East Lake’s success has become a driving factor in assisting surrounding districts desire to implement career academies structured for success. Paul’s expertise in implementing his program has led to various speaking engagements, entertaining such audiences as the Southern Region Education Board regional and national conferences, the state of South Carolina, Wisconsin, and Indiana State Educator meetings, to name but a few.

Paul’s extensive background in the engineering technology field contributes to his ability to design and develop programs that continue to have lasting impacts on the participants and communities involved. An entrepreneur at heart, Paul started his journey in 1985 as the President and Owner of Under Car Parts, Inc., a company involved in the purchase, engineering design, consolidation, remanufacture, sales and marketing of front wheel drive constant velocity assemblies. Also during this same timeframe, he started Metro Automotive Marine and contracted out his services to major Automotive and Marine manufacturers. Paul became involved as an entrepreneurial independent contractor agency, in engineering, sales and marketing of automotive and marine products offered by Champion Parts, and various other manufacturers until 1995. In 1995, Paul started Wahnish Consulting as an independent contractor in engineering design, sales and marketing of all product categories nationally to automotive OEM, traditional, retail, and to marine OEM and the traditional aftermarket. Paul continued consulting until 2003 when he sold one of his companies.

A committed father to two young men, Paul actively became involved in their lives by coaching junior and senior high school sports teams and substitute teaching at their schools. When offered a full-time position at the high school, Paul took it on his own terms, and began the five-year plan that has now become recognized as one of the Top Ten high school engineering academies for Project Lead The Way®.

Paul received his B.S. in Political Science from the University of South Florida, then attended Stetson University Law School and is a member of the American Society of Mechanical Engineers and the Society of Automotive Engineers.
July 21-23, 2011
Auburn University
Auburn, AL

Hands-On Half-Day Software Training Workshops
(July 23)

Conference Highlights
◆ Session tracks: Teachers, Hubs, Technical, and General Audience
◆ Just a few of the many sessions offered:
   ◆ BEST’s role in STEM Education
   ◆ Understanding the robot design & construction phase of BEST
   ◆ Strategies for BEST team success
   ◆ Curriculum integration
   ◆ BEST game development
   ◆ Building a “BEST Community”
◆ Plus...
   ◆ “Best Practices” Poster Session
   ◆ Exhibitors Showcase/Wine & Cheese Reception
   ◆ Networking luncheons
   ◆ Conference Banquet with national STEM education Keynote Speaker
   ◆ …and much more

Who should attend:
◆ New and veteran BEST teachers
◆ Team mentors (new and veteran)
◆ Middle and high School STEM educators
◆ 2- and 4-year college/university faculty
◆ BEST hub personnel and volunteers
◆ Those interested in starting a BEST hub
◆ Champions of informal STEM education
◆ Anyone with a vested interest in workforce development through programs like BEST

$165 “Early Bird” Conference Registration - Extended to Wednesday, May 25!
◆ Conference fee includes continental breakfast and lunch each day, Friday night banquet, Exhibitor’s reception, conference bag and CD.
◆ Post-conference hands-on workshops – no additional charge, but seating is limited! Registration is required as part of Conference registration.
◆ For session descriptions, conference registration, housing forms, and more, visit www.bestinc.org

Updated May 16, 2011
Program: Science Investigations

Date: Friday, September 9th and 16th, 2011; 9:00 AM-11:30 AM

Description: This program provides a meaningful science lab experience for home schooled students from Alabama and Georgia.

Personnel:
- AU: Erin Percival, Mary Lou Ewald, Molly Folkerts, Molly McCartney, Emily Dunavant

Schools Impacted: N/A
- Total Number of Students: 40
- Age Range: 6th-8th

Facilities: SCL 323

Middle School Class
- Instructed by: Erin Percival, Emily Dunavant
- Activities:
  - Safety Rules
  - Safety Symbols
  - Lab Equipment
  - Science Fair Introduction
  - Polymer Absorbance
Program: Getting Under the Surface (G.U.T.S)

Date: Tuesday, September 20th, 2011; 6:00 pm - 8:00 pm

Description: Parent/Child teams act as lab partners in a 75-90 minute science activity.

Personnel:
- **AU:** Mary Lou Ewald, Kathy Feminella, Casey Mitchell, Allison Holt
- **Non-AU:** Frank Ware – Retired School Teacher (Sanford Middle School), Andrew Click – Retired School Teacher (Sanford Middle School)

Schools Impacted: N/A
- Total Number of Students: 25
- Total Number of Parents: 25
- Age Range: 1st-6th Grade

Facilities: Parker Hall 307, SCL 231, 310, & 323

**Multiplying Microbes**
- Instructed by: Casey Mitchell
- Number of Students: 9
- Student Satisfaction Ranking: 4.5 (out of 5)
- Parent Satisfaction Ranking: 4.5 (out of 5)
- Age Range: 1st-3rd Grade

**LEGO-Mania!**
- Instructed by: Frank Ware
- Number of Students: 11 (4 reporting on survey)
- Student Satisfaction Ranking: 5 (out of 5)
- Parent Satisfaction Ranking: 5 (out of 5)
- Age Range: 4th-6th Grade

**Rollercoaster Rally**
- Instructed by: Andrew Click
- Number of Students: 5
- Student Satisfaction Ranking: 4.8 (out of 5)
- Parent Satisfaction Ranking: 4.6 (out of 5)
- Age Range: 4th-6th Grade

**Participant Feedback (All courses combined)**

- Did the child learn something new? Yes: 100%
- Did the parent learn something new? Yes: 100%
- Did the instructor interact well with the participants? Yes: 100%
- Is the program a good value for the cost? Yes: 100%
**Program:** War Eagle BEST

**Date:**  Saturday, August 27, 2011 - Kick Off
             Sunday, September 25, 2011 - Mall Day
            Friday, October 7 - Saturday, October 8, 2011 - Judging and Game day

**Description:** A middle and high school robotics competition open to teams in the East Alabama region.

**Personnel:**
- **Co-Directors**- George Blanks, Mary Lou Ewald, and Darin Baldwin (Southern Union Comm. College)
- **Emcee**- Chris McDuffie (AL State Dept. of Education)
- **Event Coordination/Logistics**- Mary Lou Ewald, Erin Percival (COSAM Outreach)
- **Floor Boss**- Michael Carroll (College of Engineering, graduate student)
- **Head Judges**- Peter Jones (College of Engineering) and Karl Ward (SABIC Innovative Plastics)
- **Head Referee**- Andrew Faggard (College of Engineering, student)
- **Head Scorekeeper**- Bryan McMeen (COSAM, student)
- **Hospitality**- Kathy Feminella (COSAM Outreach), Lara Stubbs (Huntingdon College, student)
- **Judging Assistants**- Jackie Hundley (College of Engineering), Chelsea Harrison (COSAM Outreach), Molly McCartney (COSAM Outreach)
- **Media/Communications**- Cheryl Cobb (Engineering), Candis Hacker Birchfield (COSAM)
- **On-Site Coordination**- Virginia and Carmine Vilardi (Wetumpka High School)
- **Pit Boss**- Justin Moses (College of Engineering, student)
- **Registration/Information/Sales**- Allison Holt and Molly Folkerts (COSAM Outreach)
- **Graphic Design**- Aileen Broaddus, Wally Ridgway (College of Engineering)
- **Staging**- Jason Smith, Lisa Wethington (College of Engineering, students)
- **Student Assistants**- Allison Holt, TJ Nguyen, Katy Prince
- **Technical Coordinators**- Michael Carroll, Lucas Hunter (U.S. Army), William Woodall (College of Engineering, graduate student), Isaac Queen (Southern Union Community College)
- **Volunteer Coordinator**- TJ Nguyen (COSAM Outreach)
- **Webmaster**- Tyler Patterson (College of Engineering)
- **Alabama Power Support Team**- Mike McCraney (Coordinator), David Freeman, Leah James, Brian Mitchell, Beth Suttle, Jimmy White, Kevin Wiley

**Schools Impacted:**
A-2-Z Home School – Auburn, AL
Auburn Junior High School – Auburn, AL
Benjamin Russell High School – Alexander City, AL
Brewbaker Technology Magnet High School – Montgomery, AL
Bullock Co. High School – Union Springs, AL
Jordan High School – Columbus, GA
LAMP High School – Montgomery, AL
Loachapoka High School – Loachapoka, AL
Montgomery Catholic Preparatory School – Montgomery, AL
Northside High School – Columbus, GA
Prattville High School – Prattville, AL
Smiths Station High School – Smiths Station, AL
Southside Middle School – Tallassee, AL
Springwood School – Lanett, AL
Schools Impacted (continued)
  St. James School – Montgomery, AL
  Stanhope Elmore High School – Millbrook, AL
  Wetumpka High School – Wetumpka, AL

- **Total Number of Students**: approx. 600-1,000
- **Age Range**: 5th-12th grade

**Facilities**: AU Student Center Ballroom (Kick Off), Auburn/Opelika Colonial University Mall, Wetumpka High School (Game Day)

**2011 Game Description: BUGS!**

**Game Pieces**

<table>
<thead>
<tr>
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**Point Value Multiplier**

The point value of insects and bug food in scoring position is multiplied by a CAM:

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**Bonus Points**

Food Bonus – 25 points for each CA occupied by both insects and bug food

Separation Bonus – 50 points if any CA contains only one type of bug. For the bonus, both types of flies are considered the same. **Examples:**

- If a team has 2 flies with black ribbons and 2 flies with red ribbons in the SCA, 2 flies with black ribbons in the PCA, and 3 cockroaches in the WPCA, they will receive the 50 points.

- If there is one fly in the SCA and both the WPCA and PCA are empty at the end of the match, the team will receive the 50 points.

Full Recovery Bonus – 100 points if at least one of each type of insect is collected in any CA combination. For the bonus, both types of flies are considered the same.
2011 Game Winners
BEST Award
- 1st: Wetumpka High School – #25
- 2nd: Springwood School – #10
- 3rd: Stanhope Elmore High School – #24

Robotics
- 1st: Stanhope Elmore High School – #24
- 2nd: Auburn Junior High School – #2
- 3rd: Southside Middle School – #21
- 4th: Springwood School – #22

Category Awards
Best Marketing Presentation Award
- 1st: Wetumpka High School – #25
- 2nd: Brewbaker Technology Magnet High School – #4
- 3rd: Loveless Academic Magnet Program (LAMP) High School – #19

Best Team Exhibit and Interview Award
- 1st: Wetumpka High School – #25
- 2nd: Springwood School – #22
- 3rd: Montgomery Catholic Preparatory School – #14

Best Project Engineering Notebook Award
- 1st: Wetumpka High School – #25
- 2nd: Springwood School – #22
- 3rd: Stanhope Elmore High School – #24

Best Spirit and Sportsmanship Award
- 1st: Wetumpka High School – #25
- 2nd: Stanhope Elmore High School – #24
- 3rd: Brewbaker Technology Magnet High School – #4

Best T-shirt design
- 1st: Brewbaker Technology Magnet High School – #4
- 2nd: Wetumpka High School – #25
- 3rd: Montgomery Catholic Preparatory School – #14

Best Web Page Design
- 1st: Montgomery Catholic Preparatory School – #14
- 2nd: Wetumpka High School – #25
- 3rd: Southside Middle School – #21

Special Awards
Most Robust Robot: (needed the least amount of repairs)
- 1st: Stanhope Elmore High School – #24
- 2nd: Southside Middle School – #21
- 3rd: St. James School – #23

Most Elegant Robot: (the machine that performs its function the most effectively)
- 1st: Auburn Junior High School – #2
- 2nd: Wetumpka High School – #25
- 3rd: Southside Middle School – #21

Most Photogenic Robot: (the beauty contest)
- 1st: Southside Middle School – #21
- 2nd: Stanhope Elmore High School – #24
- 3rd: Prattville High School – #17
Team Exhibit Design and Construction Award (awarded to the team with the most creative and innovative exhibit design)

- Wetumpka High School – #25

Founder’s Award for Creative Design: (given in honor of the two founders of BEST, Steve Marum and Ted Mahler)

- 1st: Prattville High School – #17
- 2nd: Stanhope Elmore High School – #24
- 3rd: A-2-Z Homeschool – #1

Sponsor’s Choice Awards

The War Eagle BEST Teacher Leadership Award

A line from the Auburn Creed reads: “I believe in education, which gives me the knowledge to work wisely and trains my mind and my hands to work skillfully.” For inspiring the spirit of the Auburn Creed in her BEST students, this year’s Teacher Leadership Award goes to:

- Mr. Scott Moody – Lee Scott Academy

igus Top Gun Award (the team that scored the most points in a single round)

- Stanhope Elmore High School – #24

Solid Works CAD Design Award

- Southside Middle School – #21

Teams Advancing to South’s BEST

1. Wetumpka High School – #25
2. Stanhope Elmore High School – #24
3. Springwood School – #22
4. Auburn Junior High School – #2

Participant Breakdown

- Gender: 56% Male, 40% Female, 4% N/A
- Grade: 93% High School, 7% Middle School
Program: Science Investigations

Date: Friday, October 21st and 28th, 2011; 9:00 AM-11:30 AM

Description: This program provides a meaningful science lab experience for home schooled students from Alabama and Georgia.

Personnel:
- AU: Erin Percival, Mary Lou Ewald, Molly Folkerts, Molly McCartney, Emily Dunavant

Schools Impacted: N/A
- Total Number of Students: 40
- Age Range: 6th-8th

Facilities: SCL 323

Middle School Class
- Instructed by: Erin Percival, Emily Dunavant
- Activities:
  - Safety
  - Using glassware
  - Big Pieces or Small Lab
Program: Getting Under the Surface (G.U.T.S.)

Date: Thursday, October 27th, 2011; 6:00 pm - 8:00 pm

Description: Parent/Child teams act as lab partners in a 75-90 minute science activity.

Personnel:
- AU: Mary Lou Ewald, Kathy Feminella, Casey Mitchell, Allison Holt, Kat West, Sam Hirt, Paul Norgaard
- Non-AU: Frank Ware – Retired School Teacher (Sanford Middle School), Gina Watkiss – The Heritage School

Schools Impacted: N/A
- Total Number of Students: 30
- Total Number of Parents: 30
- Age Range: 1st-6th Grade

Facilities: Parker Hall 307, SCL 231, 310, & 323

The GUTS of Blood and Diseases
- Instructed by: Kat West
- Number of Students: 7 (3 reporting on survey)
- Student Satisfaction Ranking: 5 (out of 5)
- Parent Satisfaction Ranking: 4.7 (out of 5)
- Age Range: 1st-3rd Grade

Batty for Bats
- Instructed by: Sam Hirt
- Number of Students: 9 (5 reporting on survey)
- Student Satisfaction Ranking: 4.8 (out of 5)
- Parent Satisfaction Ranking: 4.8 (out of 5)
- Age Range: 4th-6th Grade

The GUTS of Halloween
- Instructed by: Gina Watkiss
- Number of Students: 9 (4 reporting on survey)
- Student Satisfaction Ranking: 4.75 (out of 5)
- Parent Satisfaction Ranking: 4.75 (out of 5)
- Age Range: 1st-3rd Grade

Edible Science
- Instructed by: Paul Norgaard
- Number of Students: 5 (0 reporting on survey)
- Student Satisfaction Ranking: N/A
- Parent Satisfaction Ranking: N/A
- Age Range: 4th-6th Grade

Participant Feedback (All courses combined)

Getting Under the Surface Investigations
Program: Science Investigations

Date: Friday, November 11th and 18th, 2011; 9:00 AM - 11:30 AM

Description: This program provides a meaningful science lab experience for home schooled students from Alabama and Georgia.

Personnel:
- AU: Erin Percival, Mary Lou Ewald, Molly Folkerts, Molly McCartney, Emily Dunavant

Schools Impacted: N/A
- Total Number of Students: 40
- Age Range: 6th-8th

Facilities: SCL 323

Middle School Class
- Instructed by: Erin Percival, Emily Dunavant
- Activities:
  - The parts of a microscope
  - Microscope technique
  - Living protist lab
Program: Getting Under the Surface (G.U.T.S.)

Date: Thursday, November 17th, 2011; 6:00 pm - 8:00 pm

Description: Parent/ Child teams act as lab partners in a 75-90 minute science activity.

Personnel:
- **AU**: Mary Lou Ewald, Kathy Feminella, Allison Holt, Wayne Strickland
- **Non-AU**: Hilary Boyd – Auburn Junior High School, Karin Fuller – Auburn Junior High School,

Schools Impacted: N/A
- **Total Number of Students**: 30
- **Total Number of Parents**: 30
- **Age Range**: 1st-6th Grade

Facilities: Parker Hall 307, SCL 231, 310, & 323

**Squishy Circuits**
- Instructed by: Hilary Boyd
- Number of Students: 8
- Age Range: 1st -3rd Grade

**Toys in Space**
- Instructed by: Wayne Strickland
- Number of Students: 15
- Age Range: 4th -6th Grade

**You are What You Eat**
- Instructed by: Karin Fuller
- Number of Students: 6
- Age Range: 1st -3rd Grade
Program: South’s BEST Robotics Championship

Date: Thursday, December 1st – Saturday, December 3rd 2011

Description: A middle and high school robotics competition open to winning teams from other hubs in the eastern United States.

Personnel:

- **Co-Directors**- Dr. George Blanks, Mary Lou Ewald
- **Awards & Judging Coordination/Judging Assistants**- Mary Lou Ewald, Erin Percival, Jackie Hundley, Chelsea Harrison, Molly McCartney
- **Event Coordination/Logistics**- George Blanks
- **Emcee**- Greg Womble
- **Floor Boss**- Michael Carroll
- **Floor Production Manager**- Matt Schuster
- **Floor Production Coordinator**- TJ Nguyen
- **Head Judge**- Peter Jones
- **Assistant Head Judges**- Karl Ward, Jim Westmoreland
- **Head Referee**- Mark Rose
- **Head Field Referees**- Andrew Faggard, Tim Iler
- **Hospitality (Food and Facilities)**- Kathy Feminella
- **Media Coordination**- Candis Birchfield, Cheryl Cobb
- **Photography**- Kim Brumbeloe, Don Morgan, Barbara Bryan
- **Pit Boss**- Joey Giuliano, Justin Moses
- **Production**- Bradley Green
- **Registration and Sales**- Allison Holt, Molly Folkerts
- **School of Architecture Coordinators**- Rusty Smith, Margaret Fletcher
- **Head Scorekeeper**- Bryan McMeen
- **Signage**- Aileen Broaddus, Wally Ridgway
- **Staging**- Jason Smith, Lisa Wethington. Christina Giuliano, Sue Mitchell
- **Streaming Video Coordinator**- Jeff Walker
- **Technical and Compliance Coordinators**- Michael Carroll, William Woodall, Lucas Hunter, Isaac Queen
- **Video Production**- Greg Ruff
- **Webmaster**- Tyler Patterson
- **Graphic Design**- Wally Ridgway

Schools Impacted:

Blazer BEST University of Alabama Birmingham Birmingham, AL
- Homewood Middle School- Homewood, AL
- Oak Mountain High School- Birmingham, AL
- Shades Valley Technical Academy- Birmingham, AL
- Spain Park High School- Birmingham, AL

Central Alabama BEST Central Alabama Comm. College Talladega, AL
- Crossroads Christian School-Moody, AL
- Episcopal Day School-Gadsden, AL
- Hope Academy- Talladega, AL
Schools Impacted (continued):

Emerald Coast BEST University of West Florida Pensacola, FL
- Milton High School-Milton, FL
- Pensacola High School-Pensacola, FL
- Seaside Neighborhood School- Santa Rosa Beach, FL
- Woodham Middle School-Pensacola, FL

Georgia BEST Southern Polytechnic State University Marietta, GA
- Fernbank Science Center LINKS-Atlanta, GA
- North Cobb Christian School- Kennesaw, GA
- North Forsyth High School-Cummings, GA
- Henry W. Grady High School-Atlanta, GA

Jubilee BEST Mobile Community Mobile, AL
- W.P. Davidson High School-Mobile, AL
- Mobile Area Coalition of Homeschools- Mobile, AL
- North Mobile County Middle School-Axis, AL
- St. Paul’s Episcopal School-Mobile, AL
- St. Vincent de Paul Catholic School-Mobile, AL
- Sweet Water High School-Mobile, AL
- Monroeville Junior High School- Monroeville, AL

Mississippi BEST Mississippi State University Starkville, MS
- Starkville Christian Home Educators-Starkville, MS
- Holy Cross School-New Orleans, LA
- Lausanne Collegiate School- Memphis, TN
- Alcorn Central High School- Glen, MS

Music City BEST Lipscomb University Nashville, TN
- Dickson Area Robotics Team-Burns, TN
- Central Magnet School-Murfreesboro, TN
- Merrol Hyde Magnet School- Hendersonville, TN

North Alabama BEST Wallace State Community College Hanceville, AL
- Marshall Technical School-Guntersville, AL
- Holly Pond High School-Holly Pond, AL
- Hartselle Junior High School-Hartselle, AL
- Fairview High School-Cullman, AL

Northwest Alabama BEST Northwest Shoals Comm. College Muscle Shoals, AL
- Russellville City Schools-Russellville, AL
- Muscle Shoals High School-Muscle Shoals, AL

Tennessee Valley BEST AU & Calhoun Community College Decatur, AL
- The Academy for Science and Foreign Language- Huntsville, AL
- Athens Bible School-Athens, AL
- Decatur Austin Robotics Coalition (Decatur City Schools)-Decatur, AL
- Lindsay Lane Christian Academy-Athens, AL

War Eagle BEST Auburn University Auburn, AL
- Auburn Junior High School-Auburn, AL
- Springwood School-Lanett, AL
- Stanhope Elmore High School-Millbrook, AL
- Wetumpka High School-Wetumpka, AL

Wiregrass BEST Dothan Community Dothan, AL
- Beverlye Magnet School-Dothan, AL
- Carver Magnet School-Dothan, AL
- Charles Henderson High School-Troy, AL
Schools Impacted (continued):
Wolverine BEST Grove City College Grove City, PA
- Cornerstone Christian Preparatory Academy-Venetia, PA
- Mercer Area Middle/High School-Mercer, PA
- DuBois Area High School-DuBois, PA

Total Number of Students: approx. 2,500
- Age Range: 6th-12th grade

Total Number at Event: approx. 3,500

Facilities: AU Student Center, Auburn Arena

2011 Game Description: Bugs!

Game Pieces

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Point Value Multiplier

The point value of insects and bug food in scoring position is multiplied by a CAM:

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Bonus Points

Food Bonus – 25 points for each CA occupied by both insects and bug food

Separation Bonus – 50 points if any CA contains only one type of bug. For the bonus, both types of flies are considered the same. Examples:

If a team has 2 flies with black ribbons and 2 flies with red ribbons in the SCA, 2 flies with black ribbons in the PCA, and 3 cockroaches in the WPCA, they will receive the 50 points.

If there is one fly in the SCA and both the WPCA and PCA are empty at the end of the match, the team will receive the 50 points.

Full Recovery Bonus – 100 points if at least one of each type of insect is collected in any CA combination. For the bonus, both types of flies are considered the same.
2011 Championship Winners

BEST Award
- 1st: W.P. Davidson High School (Jubilee BEST)
- 2nd: Central Magnet School (Music City BEST)
- 3rd: Decatur Austin Robotics Coalition (Tennessee Valley BEST)

Game Winners
- 1st: Central Magnet School (Music City BEST)
- 2nd: Decatur Austin Robotics Coalition (Tennessee Valley BEST)
- 3rd: W.P. Davidson High School (Jubilee BEST)
- 4th: Seaside Neighborhood School (Emerald Coast BEST)

Middle School BEST Award
- 1st: Seaside Neighborhood School (Emerald Coast BEST)
- 2nd: Beverlye Magnet School (Wiregrass BEST)

Middle School Robotics Award
- Seaside Neighborhood School (Emerald Coast BEST)

Best Oral Presentation Award
- 1st: Mobile Area Coalition of Homeschools (Jubilee BEST)
- 2nd: Central Magnet School (Music City BEST)
- 3rd: Episcopal Day School (Central Alabama BEST)

Best Team Exhibit and Interview Award
- 1st: Decatur Austin Robotics Coalition (Tennessee Valley BEST)
- 2nd: Spain Park High School (Blazer BEST)
- 3rd: Springwood High School (War Eagle BEST)

Best Project Engineering Notebook Award
- 1st: Central Magnet School (Music City BEST)
- 2nd: W.P. Davidson High School (Jubilee BEST)
- 3rd: Monroeville Junior High School (Jubilee BEST)

Best Spirit and Sportsmanship Award
- 1st: Wetumpka High School (War Eagle BEST)
- 2nd: Merroll Hyde Magnet School (Music City BEST)
- 3rd: St. Vincent de Paul (Jubilee BEST)

BEST Team Video
- 1st: Woodham Middle School (Emerald Coast BEST)
- 2nd: The Academy for Science and Foreign Language (Tenn. Valley BEST)
- 3rd: Spain Park High School (Blazer BEST)

Team Exhibit Design and Construction Award (the most creative and innovative table display design)
- 1st: Central Magnet School (Music City BEST)
- 2nd: Decatur Austin Robotics Coalition (Tennessee Valley BEST)
- 3rd: Spain Park High School (Blazer BEST)
2011 Championship Winners (continued)
Founders Award for Creative Design: (given in honor of the two founders of BEST, Steve Marum and Ted Mahler)
- 1st: Mobile Area Coalition of Homeschools (Jubilee BEST)
- 2nd: Athens Bible School (Tennessee Valley BEST)
- 3rd: Homewood Middle School (Blazer)

Most Elegant Robot: (the machine that makes efficiently performs the task it was designed for)
- 1st: Seaside Neighborhood School (Emerald Coast BEST)
- 2nd: Decatur Austin Robotics Coalition (Tennessee Valley BEST)
- 3rd: Fernbank LINKS (Georgia BEST)

Most Robust Robot: (needed the least amount of repairs)
- 1st: W.P. Davidson High School (Jubilee BEST)
- 2nd: Athens Bible School (Tennessee Valley BEST)
- 3rd: Oak Mountain High School (Blazer BEST)

Most Photogenic Robot: (the beauty contest)
- 1st: DuBois Area High School (Wolverine BEST)
- 2nd: Episcopalian Day School (Central Alabama BEST)
- 3rd: Henry W. Grady High School (Georgia BEST)

Best Web Page Design
- 1st: Russellville City School (Northwest Alabama BEST)
- 2nd: Oak Mountain High School (Blazer BEST)
- 3rd: Beverlye Magnet School (Wiregrass BEST)

Best T-shirt design
- 1st: Central Magnet School (Music City BEST)
- 2nd: Wetumpka High School (War Eagle BEST)
- 3rd: Homewood Middle School (Blazer BEST)

igus Top Gun Award (the team that scored the most points in a single round)
- Central Magnet School (Music City BEST)

Solid Works CAD Design Award
- 1st: W.P. Davidson High School (Jubilee BEST)
- 2nd: Central Magnet School (Music City BEST)
- 3rd: Fernbank LINKS (Georgia BEST)

Southern Company “Southern Style” Award – This award was determined by ballot and through consultation with the Southern Co. employees who were present. It is being awarded to the team that other teams believed exhibited the qualities important to the Southern Company – honesty, respect, fairness, integrity, safety, teamwork, and diversity.
- Holly Pond High School (North Alabama BEST)

Women in Science and Engineering (W.I.S.E.) Luncheon
- Guest Speaker: Dr. Deborah Barnhart, CEO and Executive Director of the U.S. Space and Rocket Center
- Female Student Attendance: 186

South’s BEST Robotics Championship
Dr. Deborah Edwards Barnhart became the Chief Executive Officer and Executive Director of the U.S. Space & Rocket Center in December 2010. The Center is the official Visitor Information Center for NASA’s Marshall Space Flight Center, an affiliate of the Smithsonian, and the showcase for Redstone Arsenal and Army programs. Home to U.S. Space Camp, U.S. Space Academy, and Aviation Challenge, the Center is Alabama’s leading tourist attraction. Today’s leading technology initiatives in aerospace and defense are showcased along with international space artifacts including a complete Space Shuttle stack and an Apollo Saturn V moon rocket.

Dr. Barnhart’s career spans three decades of service in commercial industry, government, aerospace and defense. A retired Navy Captain (0-6), she was one of the first ten women assigned to duty aboard ships and commanded five units in her 26 year career. She was Vice President of three Dow 30 aerospace and defense companies, serving in manufacturing, business development, and congressional lobbying for Honeywell International, McDonnell Douglas (now Boeing), and United Technologies Hamilton Sundstrand.

Dr. Barnhart earned her doctorate at Vanderbilt University, holds degrees from the University of Maryland, the University of Alabama Huntsville, and is a Sloan Fellow (MBA) from Massachusetts Institute of Technology. She resides in Huntsville, Alabama and Clearwater Beach, Florida.
Science and Engineering Exhibit Fair

This year’s competition day will feature a Science and Engineering Exhibit Fair. The fair will include interactive and informational displays hosted by the following groups:

- Auburn University
- College of Sciences and Mathematics Student Services
- Samuel Ginn College of Engineering Student Services
- Samuel Ginn College of Engineering Department Displays
- Special Opportunities in STEM
  - Honors College, Admissions Office, WISE, SWE, AWIS, Co-Op, Living Learning Communities
- AU-Air Force ROTC
- AU-War Eagle Motor Sports
- Mississippi State University-Bagley College of Engineering
- Wallace State Community College

Science and Engineering Exhibit Fair
Saturday, December 3rd
10am-2pm
Auburn Arena Lawn

Beginning at 10:00am on Saturday, students will receive a Science and Engineering Fair Stamp Card as they enter the exhibit fair on the Auburn Arena Lawn (outside the main entrance). As the students circulate among the displays they should present their stamp card at each exhibit table to be stamped. After receiving eight unique stamps, they should drop their stamp card in the big, blue box at the registration desk for a chance to receive door prizes later in the day. The fair will end at 2:00pm sharp!

Door prizes to include: BEST merchandise, HEXBUG Gift Packs, Auburn Merchandise Gift Bags, Portable DVD Player, Robotics Kit, and more!

Door prize winners will be announced over the floor microphone between 3:00 and 3:30pm.
2011 Student Survey Summary

Introduction
The 2011 South’s BEST Robotics Competition was held December 2-3. Fifty (50) teams were in attendance, with 31 (or 62%) being from Alabama.
Two surveys were administered to students; one before their visit and one during. A copy of the pre-event survey is attached in Appendix A. The survey during the event asked one question: based on your experience at South’s BEST, are you interested in attending Auburn University? Eighty-four (84) percent, 148 students, answered “yes”. 29 total students answered “no”; nearly one quarter (24 percent) of the students who answered “no” were from out of state.

Summary of Student Survey
The survey was completed by 1,045 students. It was apparent that Seaside Neighborhood School had an obvious number of non-BEST students complete the survey, and that Woodham Middle School’s surveys were completed by a teacher. These surveys (142 of them) were removed from the pool and steps will be taken to eradicate these effects in the future. For the purpose of defining grade level and gender, Woodham’s results were left in the pool.

Grade Level
Of the 932 available surveys in the revised pool, 923 students provided their grade level. Middle School students (6th-8th grade) accounted for 34.7% of student attendees, with 65.3% being in high school (9th – 12th grade).

Gender
Of the 932 available surveys in the revised pool, 927 students provided their gender; 343 were female (37%) and 584 were male (63%).
Gender by Grade Level

Of the 932 available surveys in the revised pool, 919 students provided both their grade level and gender; 577 male and 342 female.

Years in the Program

Of the 903 available surveys in the revised pool (sans both Woodham and Seaside), every student provided the number of years they've participated in BEST. First year students accounted for 51%; second year students, 25.9%; third year, 14.2%; fourth year, 5.5%; fifth year, 2.4%; sixth year, 0.8%; and one (1) seventh year student accounted for 0.1%.

As a regional competition, the number of years a student has participated in BEST is not an accurate indication of student attrition. As the program continues to grow, new teams and competition sites are added each year, which brings a new group of students. What this data represents is the innovation and competitive spirit of first year teams and participants.

Increased Interest in STEM

Of the 903 available surveys in the revised pool (sans both Woodham and Seaside), 825 had an increased interest in math, science, and/or engineering because of their participation in BEST. Only 78 answered “no”; over 60% of which had only participated in BEST for one year.

Plans to Attend College

Of the 903 available surveys in the revised pool (sans both Woodham and Seaside), 11 students did not plan to attend
college, while 892 did. Of those who did not plan to attend college, 27.3% were female and 72.7% were male.

Of students who wanted to attend a college or university, school of first choices were roughly: Auburn, 18 percent; Alabama, 9 percent; Georgia Tech, 4 percent; South Alabama, 2.5 percent; UAH, 2 percent; Harvard, 2 percent; UAB, 1.9 percent; LSU, 1.6 percent; Mississippi State, 1.6 percent; and Vanderbilt, 1.3 percent. A majority of students chose more than three schools or were completely undecided, roughly 29 percent total.

Fields of Study

There were 13 available fields of study for students to choose from and an “other” write-in option. Students who chose multiple unrelated fields or wrote “undecided” were marked “undecided”; students who chose multiple technical fields, namely “Math, Science, Engineering, or Medicine” were marked “undecided technical”. Engineering/Computer Science accounted for 30 percent while COSAM (or medical degrees starting there) accounted for 20 percent. Undecided students accounted for 22 percent and undecided technical was 5.5 percent. The remaining notable percentages were:

Agriculture .4% Communications / History, Literature, or English
Architecture 2.5% Journalism .5% 1.8%
Business 3.9% Criminology or Law 2.1% Psychology 2.4%
Education 1% Fine Arts 6.6%

College Interest Among High School Students

Eleven students said they had no plans of attending college; ten of which were in high school. There were 603 high school students that gave their collegiate plans. The colleges of choice and the percentages of which they are preferred are similar to those of the entire group. The largest variance is in undecided students; which actually rose by one percentage point.

A major was given by 592 high school students. Engineering/Computer Science was selected by 211 students, or 35.6%. COSAM degrees captured 120 students or 20% (over half selecting medicine). Undecided students fell to 18.8 percent and undecided students in technical disciplines fell to 4.7%. The remaining highest concentrations were:

Fine Arts: 5.6% Psychology: 2.5%
Business: 4.4% Architecture: 1.5%
Student Survey 2011

Name: ____________________________  City/State: ____________________________

School: __________________________  Grade: _________  Gender: □ Female  □ Male

1.) Do you intend/want to go to college?
□ Yes
□ No
If so, where would you like to attend? ____________________________________________

What field of study do you plan to major in?
□ Agriculture
□ Architecture/ Design/ Construction
□ Business (marketing, accounting, aviation, etc)
□ Communications/ Journalism
□ Criminology
□ Engineering/ Computer Science
□ Fine Arts (art, music, film, theatre)
□ History/ Literature/ English
□ Law
□ Mathematics
□ Medicine/ Health/ Vet./ Nursing
□ Psychology/ Social Work
□ Science (chemistry, biology, physics)
□ Other __________________________

2.) If you are not planning to attend college, why not?
□ I have no interest in attending college
□ I have a job
□ I can’t afford to attend college
□ Other: __________________________

3.) Has participating in the BEST Program increased your interest in the fields of math, science, and/or engineering?
□ Yes
□ No

4.) How many years (including this year) have you participated in BEST?
□ 1 year  □ 3 years
□ 2 years  □ More than 3 years: __________
Program: Science Investigations

Date: Friday, December 9th, 2011; 9:00 AM- 11:30 AM

Description: This program provides a meaningful science lab experience for home schooled students from Alabama and Georgia.

Personnel:
- AU: Erin Percival, Mary Lou Ewald, Molly Folkerts, Molly McCartney, Emily Dunavant

Schools Impacted: N/A
- Total Number of Students: 40
- Age Range: 6th-8th

Facilities: SCL 323

Middle School Class
- Instructed by: Erin Percival
- Parents and Student Science Fair Meeting:
  - GEARSEF Regulations
  - Review Parent Resource Packet
  - Science Fair Project Question and Answer