



Detailed Conference Schedule

Thursday, June 18th

7:00-5:00 Pre-Function Foyer

Conference Registration

Continental breakfast provided in the Pre-Function Foyer starting at 7:00am

8:00-12:00 Sciences Center Classroom Bldg Room 129 Audience: Teachers/Mentors

BRAIN Workshop

Terry Grimley, San Antonio BEST & Greg Young, Capitol BEST

The BRAIN workshop will introduce participants to the BRAIN controller hardware, its capabilities and programming methods. Various hands-on labs/exercises will provide participants with valuable experience using the BRAIN Wizard, creating a custom BRAIN program (in C), and testing programs on actual hardware. Pre-registration required.

8:00-9:00 Seminar Room Audience: Teachers

Cultivating Community Partners for Your BEST Team

Robin Fenton, Gulf Coast Exploreum Science Center, Jubilee BEST

"It takes a village to create a successful BEST team." Teachers will discover the many untapped opportunities in their community. Discussions will include: ways to identify possible resources, how to involve them, and how to establish successful partnerships that can make your team a focal point of the community.

8:00-9:00 Governor's Room Audience: Teachers

First Steps to an Engineering Academy

Michael Fletcher, W.P. Davidson High School, Jubilee BEST

Davidson's EPIC engineering program has become a model for the Engineering Academies in Alabama. Come see how an idea to give students more opportunity grew into a successful engineering program.

8:00-9:00 Ballroom A Left Audience: Teachers

Introduction to Computer Science with BEST

E.T. Hammerand, Arkansas State University, Crowley's Ridge BEST

This session will explain how to utilize the BEST BRAIN to introduce students to the applied mathematics, problem solving and program construction of computer science.

9:15-10:15 Seminar Room Audience: Teachers

Care and Feeding of Rechargeable Batteries

Steve Marum, North Texas BEST

Batteries are essential! Proper charging and recycling of your batteries will help them perform at their best. Here's how to treat them.

BEST Return Kit Basics

Wiede Cutshall, Cutshall Consulting, LLC, San Antonio BEST

Co-Presenter: Jon Cutshall

This hands-on, "how to" is for new teachers and team mentors. The session will include an overview of the BEST return kit and discussion of how the various parts work together and physically assemble.

9:15-10:15 Governor's Room Audience: Teachers

Organizing Large Teams for Successful Student Involvement

Lane Matheson, Tulsa Engineering Academy at Memorial, Oklahoma BEST

Need to involve more students? Create a stronger team by organizing like an engineering company. Officer titles encourage leadership and look great on college applications.

Advantages & Disadvantages of a Large Multi-Discipline Technical Center-Based BEST Robotics Team

Derek Goodson, University of Arkansas-Ft. Smith, River Valley BEST

Large BEST Robotics teams with students from multiple disciplines and a wide variety of schools can have distinct advantages as well as present unique challenges.

9:15-10:15 Ballroom A Left Audience: Hubs

Q&A for 2009 New Hubs and Future New Hubs

Dr. George Blanks, Executive Director

This session is offered for our new 2009 hubs and those who are considering starting a hub in 2010 or beyond. With the 2009 competition rapidly approaching, this is a great chance to ask questions about anything and everything related to the competition.

10:30 - 11:30 Seminar Room Audience: General

Using Participatory Design Techniques to Analyze the BEST Game

Tara Powell, Oak Mountain High School, Blazer BEST

This workshop will share techniques to quickly analyze the BEST game. Using office supplies and participatory methods, teams develop game strategies and high-level robot specifications.

10:30-11:30 Governor's Room Audience: Teachers

Fostering an Engineering Culture at Your School

Panelists:

Michael Fletcher, W.P. Davidson High School, Jubilee BEST

Jeff Rosen, Georgia BEST

Bryan Rosenstiel, Hoover Freshmen Academy, Blazer BEST

Fred Stillwell, East Cobb Middle School, Georgia BEST

Teachers from Alabama and Georgia will share how they used BEST as a foundational program to establish support for a larger scale engineering program at their schools.

10:30-11:30 Ballroom A Left Audience: Teachers

Connecting with Middle School BEST Teachers

Mary Lou Ewald, Auburn University, War Eagle BEST

Co-Presenter: Robin Fenton

In 2008, 31% of the students participating in BEST were in the middle school grades (6th – 8th). Each year, more middle schools are discovering the benefits of participating in BEST as a project-based learning activity for their students. Realizing that middle school teachers face unique challenges shepherding their students through BEST, the BEST Board of Directors would like feedback from those teachers, mentors, and hub directors who would like to ensure that BEST is addressing the needs of our middle school competitors. This will be a facilitated discussion session, so come with ideas!

11:30-1:30

Lunch On Your Own

12:30-4:30

Hyundai Motor Manufacturing Plant Tour

Hyundai's new plant in Montgomery, Alabama is technologically and environmentally state of the art - it has been certified as being among those with the highest automotive operating standards in the world. It's here that the new Sonata and Santa Fe are being built, especially for the American market Tour transportation will be provided (lunch is not, so grab something for the trip!). Meet at the conference registration area in the Pre-function Foyer by 12:30 sharp. Pre-registration required. Check at Registration to see if last minute spaces are available.

1:30-2:30 Seminar Room Audience: Teachers

BRAIN Basics

Bryan Rosenstiel, Hoover Freshmen Academy, Blazer BEST

Participants will learn the basics of how the BEST Robotics Advanced Instruction Node (BRAIN) control platform system functions on the robot. The BRAIN replaces and consolidates several specific Returnables Kit pieces of equipment. This session will be useful to teachers and mentors who are BRAIN novices.

1:30-2:30 Governor's Room Audience: Teachers

42 Days of BEST

John Robertson, United States Air Force, Oklahoma BEST

Participants will learn key strategies, processes, and techniques for organizing the team over 6 weeks to make it more efficient and managing the team to make it work more effectively. Following these tried-and-true methods will better insure that teams have a successful experience in BEST. Both the robotic and BEST Award components of the program will be covered.

1:30-2:30 Ballroom A Left Audience: General

The CAD Academy Overview

Russell Mickelson, VP of Operations, The CAD Academy

Come and see why the CAD Academy is the fastest growing pre-engineering and interdisciplinary academy program. The CAD Academy advances education in the key areas of STEM and architecture, while letting students to explore real world projects.

2:30-3:00 Pre-function Foyer

Networking Break

3:00-4:30 Ballroom A Left Audience: General

BEST Award Panel Discussion

Moderator: John Martini, President, BEST Robotics & River Valley BEST

Panelists:

Janne Ackerman, Collin County BEST

Jenny Parker, Jubilee BEST

Bill Stamm, Denton County BEST

Virginia Vilardi, War Eagle BEST

BEST Award success will be discussed from the perspectives of hub directors and experienced teachers. In addition, a proposal to modify the Project Engineering Notebook requirements will be discussed. Come with questions and best practices examples to share with the group.

3:00-4:00 Governor's Room Audience: Hubs

Advanced BRAIN Diagnostic Techniques Using the STEM Board

William Polanco, Capitol BEST

Advanced BRAIN diagnostic tools and insightful information on how to run BRAIN diagnostics using the STEM Board will be covered in this session. Trouble shooting guidelines and BEST practices will be discussed, follow by a live demonstration of the STEM Setup.

5:00-6:30 Pre-function Foyer

Wine & Cheese Reception

Join us in the Pre-function Foyer for a free drink (one free ticket per person, cash bar also available) while you view Exhibitor booths and browse the Poster Session.

Dinner On Your Own

After the reception, find a friend or two and venture into town for a bite to eat. There is a list of restaurants within walking distance located in this program guide.

Friday, June 19th

7:00 - 5:00 Pre-function Foyer

Conference Registration

Continental breakfast provided in the Pre-function Foyer starting at 7:00am

8:00-9:00 Seminar Room

Audience: Hubs

Managing the BEST Return Kit

Jon Cutshall, Southwest Research Institute, San Antonio BEST

Co-Presenter: Wiede Cutshall

This is a hands-on “how to” for new hub volunteers. Session will include an overview of the BEST return kit, and discussion of kit management issues including parts packaging, troubleshooting, and refurbishment.

8:00-9:00 Ballroom B Right

Audience: Hubs

BEST and Workforce Development: Finding Funding in Your State

Dr. George Blanks, Executive Director, BEST & War Eagle BEST

Not so much a presentation as a “share session,” we will explore a variety of potential sources for funding at the state level.

Large Companies as Sponsors

Garry Ackerman, Raytheon Company, Collin County BEST

In this session, we break the subject of fund-raising at large companies down into five pieces: (1) Preparing to Sell the Program—planning your presentation and pulling together the necessary materials to present an exciting, thorough, concise story; (2) Availability of Money—assessing the company’s ability to contribute (getting to know the company you plan to solicit); (3) Getting in the Door—using an insider to find the right people to talk to; (4) The People Perspective—learning about the person you’ll be soliciting and influencing his/her advisers; Nurturing a Sponsor—building and maintaining the relationship that will facilitate future fund-raising.

8:00-9:00 Governor's Room

Audience: General

Sublimation and the BEST Award

David Gross, President of Condé Systems, Inc.

Let David Gross teach you the building blocks of sublimation transfer during his presentation on producing photo gifts and awards. You’ll walk away with a better understanding of how the dye sublimation transfer process works, the wide variety of products that can be produced, ways to use imprinted products to directly benefit your school and classroom, and how sublimation transfer applies

to real world occupations including screen printing, sign making, embroidery, pad printing, engraving, and photography. Bring your questions and your enthusiasm for learning the basics of this exciting digital technology.

9:15-10:15 Seminar Room Audience: Hubs
An Overview of BEST Game Scoring Software
Terry Grimley, Southwest Research Institute, San Antonio BEST

This presentation will cover the installation, setup, and operation of the BEST game scoring software that is provided to BEST hubs.

9:15-10:15 Ballroom B Right Audience: Hubs
Judging Compliance and Resources for Hubs
Mary Lou Ewald, Auburn University, War Eagle BEST
Co-Presenters: Janne Ackerman, Greg Young

Best practices and compliance issues related to BEST Award judging and Special Awards judging will be addressed in this session. Topics covered – determining the number of judges you need, recruiting and training judges, cultivating program support through your judges, scheduling judged events, scoring rubrics, trophy and plaque guidelines, and much more.

9:15-10:15 Governor's Room Audience: Teachers
SolidWorks Basics
Bobby Conrad, Technical Training Aids

Participants will learn the basics of using SolidWorks CAD software, the free software package provided to all BEST teams to use in the design and construction of their robots.

10:30-11:30 Seminar Room Audience: General
Building a BEST-Focused Community
Robin Fenton, Gulf Coast Exploreum Science Center, Jubilee BEST

"It takes a village to create a successful BEST hub." BEST is not only a cross-curricular program for our students but should be cross-community for a hub. Involving the many potential stakeholders in your community, such as industry mentors, volunteers, and judges, can strengthen your hub and often lead to much needed financial support. Recruitment and retention of industry and community partners will be discussed.

10:30-11:30 Ballroom B Right Audience: Hubs
The BEST Advantage to Social Media
Greg Young, Capitol BEST

The session will discuss how to take advantage of the growing use of Social Media sites such as Facebook, YouTube, VolunteerMatch and many others to enhance your hub's fundraising and publicity activities. More people are connecting online today than ever before. We'll show you how to make use of this growing industry to reach others with the BEST message.

10:30-11:30 Governor's Room Audience: General

A Project and Design Oriented Innovative Electrical Engineering Program

Dr. Murali Varanasi, University of North Texas

Co-Presenters: Dr. Oscar Garcia, Tom Fitzmaurice

This NSF Department Level Reform program incorporates many BEST principles into the University of North Texas' Electrical Engineering curriculum to attract and engage engineering students.

10:30-11:30 Ballroom B Left Audience: Hubs

Universities: The Gateway to Mentors, In-Kind Donations, and Long-Lasting Partnerships

Velda Morris, School District of Philadelphia, Philadelphia BEST

Co-Presenter: Rebecca Stein

Learn how to build sustainable, mutually beneficial partnerships with Colleges and Universities to further the mission and goals of your BEST Robotics team or hub.

11:30-1:30 Ballroom A

Networking Lunch

Featured Speaker, Dr. Ken Berry

1:45-2:45 Seminar Room Audience: General

Engineering Design Process

Dr. Mark Conner, Hoover High School Engineering Academy, Blazer BEST

Participants will learn how to implement the most effective model for designing, building, and testing the team's robot. EDP is also effective in helping the development of the various components in the BEST Award.

1:45-2:45 Ballroom B Right Audience: Hubs

Educational Partnerships and Programs: Cultivating the Engineering Workforce

Dr. Sheryl Custer, Texas A&M University – Kingsville, Coastal Bend BEST

Co-Presenters: Joyce Coleman, Marc Teller

With the growing demand for more engineers in the workforce, it is imperative for universities to promote and cultivate a new generation of students.

1:45-2:45 Governor's Room Audience: General

The CAD Academy Overview

Russell Mickelson, VP of Operations, The CAD Academy

Come and see why the CAD Academy is the fastest growing pre-engineering and interdisciplinary academy program. The CAD Academy advances education in the key areas of STEM and architecture, while letting students to explore real world projects.

3:00-4:30 Ballroom B Right Audience: Hubs

Event Management & Compliance Panel Discussion

Moderator: Terry Grimley, San Antonio BEST

Panelists:

Dr. Alan Kallmeyer, Bison BEST
Janne Ackerman, Collin County BEST
Dr. Steve Maier, Heartland BEST
Dr. Tim Maharry, Heartland BEST
Wiede Cutshall, San Antonio BEST

Learn about best practices for event management and why overall game and judging rule compliance is important in maintaining the integrity of the program.

3:00-4:30 Ballroom B Left Audience: Teachers

BRAIN Basics

Bryan Rosenstiel, Hoover Freshmen Academy, Blazer BEST

Participants will learn the basics of how the BEST Robotics Advanced Instruction Node (BRAIN) control platform system functions on the robot. The BRAIN replaces and consolidates several specific Returnables Kit pieces of equipment. This session will be useful to teachers and mentors who are BRAIN novices.

3:00-4:30 Governor's Room Audience: Teachers

Building Robots with LEGO Mindstorm

Dr. Sue Mitchell, Calhoun Community College, Tennessee Valley BEST

In this hands-on session, participants will use LEGO Mindstorm NXT kits to build robots. Simple programming techniques will be used to operate the various sensors in the kits and to "teach" the robots to do simple tasks.

3:00-5:00 Seminar Room

Advisory Council and Board of Directors

5:00-6:00 Pre-function Foyer

Reception (Cash Bar)

6:00-8:00 Ballroom A

Conference Banquet

Featured Speaker, Celeste Baine

After Dinner

Join us for a fabulous evening of celebrating the BEST program! Following the banquet, you may wish to walk down College Street and relax at the SummerNight 2009 festival.

SummerNight 2009 (Downtown Auburn, one block from the AUHCC)

On Friday night from 6:00—9:30, the City of Auburn and other local organizations will host this annual free event. Downtown Auburn will be transformed into a walker's art paradise with artists booths on the streets, bands at Toomer's Corner (corner of Magnolia and College) and on North College (corner of

College and Tichenor), poetry readings, and much more. Music will be provided by John Peterson (original Indie/Americana composer and guitarist) and other local favorites including Todd Vickery, Martha's Trouble, the Alabama Gravy Soppers, and the Robert Orr Band. Fred Lord of Fred's Feed in Loachapoka will perform Celtic airs and more on violin and fiddle at the Old Auburn Ale House. Street performers, pizza tossing, tarot card reading, an exhibition of flaming hula hooping, and the Burn City Rollers women's roller derby skaters will add to the fun. Downtown restaurants will sell pizza, pitas, Panini's, cupcakes, burgers, bagels, and ice cream.

Saturday, June 20th

8:30-10:00 Ballroom A

Plenary Session: "Why BEST and Why Now?"

BEST Advisory Council members from industry and higher education will share their unique perspectives on the critical need for K-12 STEM education programs and how BEST addresses this national need.

Facilitator: John Martini – President, BEST Robotics, Inc.

Panelists:

Steve Perry

Executive Director

The Forum, *Industry Partners in Environmental Progress*

Mobile, AL

Dr. Miguel Garcia-Rubio

Associate Dean

College of Engineering

University of North Texas, Denton

Dr. Richard Gale

Professor

Department of Electrical and Computer Engineering

Edward E. Whitacre, Jr. College of Engineering

Texas Tech University, Lubbock

Dr. Ken Berry

Assistant Director

Science and Engineering Education Center

University of Texas at Dallas

10:00 – 10:15

Break

We invite conference participants to participate in one of the following break-out sessions to share your ideas and interests.

10:15 – 11:45 Governor's Room

Collaborating on BEST Grants and other Fundraising Efforts

Facilitator: Tom Fitzmaurice, University of North Texas, Texas BEST

Higher education institutions are key players in BEST Robotics, with 23 two-year and four-year colleges and universities hosting hub events this fall. Collectively, these universities have a large voice and a great deal of funding potential with granting agencies and foundations. If you are interested in joining a "BEST Consortium" and discussing ideas on how to leverage our assets to obtain national-level funding, we invite you to join this session to share your ideas.

10:15 – 11:45 Ballroom A

Teacher Training Initiative

Facilitator: Robin Fenton, Gulf Coast Exploreum Science Center and Jubilee BEST

The Gulf Coast Exploreum Science Center in Mobile, Alabama is playing an active role in developing teacher-training web-based modules for the BEST program. Future plans are for the Exploreum to become the national training center for BEST Robotics and to support these efforts on a continual basis. If you have ideas on how this training initiative should operate or specific topics that should be addressed, we encourage you to attend this session to share your ideas.

10:15 – 11:45 Seminar Room

BEST as a K-12 Pipeline Program

Facilitator: George Blanks, Auburn University, BEST Executive Director

Nationally, industry leaders and educators are pushing for engineering education programs (informal and classroom both) to be introduced at the elementary school level. The goal is to peak students' interests in STEM careers at an early age; some data points to the 3rd grade as a critical point in developing student interest in these fields. The term "pipeline" is being increasingly used to describe the kinds of educational programs K-12 schools need. While some consider BEST a stand-alone competition, it is indeed a pipeline program from middle to high school, and a very effective one at that. So where does BEST – or should BEST – fit into the pipeline from elementary through high school? Should we be exploring ways to adopt or develop an elementary school version of BEST? Should we be aligning ourselves with other programs that already have such a competition in place? Or should we "stick to our knitting" and focus on doing BEST better? This session is a discussion of where we fit, don't fit, can't fit, and could fit in this national dialogue.

10:15 – 11:45 Ballroom B, Right

Building on the Uniqueness of BEST: Establishing a National K-12 STEM Education Presence

Facilitators: Paul George, University of Alabama-Birmingham, Blazer BEST
Nancy Rosslund, University of North Dakota, Bison BEST

In the world of STEM education, and robotics competitions in particular, BEST is truly unique. Those of us who are involved understand its uniqueness, but 'outsiders', including potential funders, may not understand what our niche is and why this program continues to flourish in a grass-roots atmosphere

with all volunteers. How can we brand ourselves to better capitalize on who we are, why we are special, and why BEST continues to be successful at attracting students into STEM careers?

12:00 **Conference concludes for teachers and non-hub personnel**

12:00 – 2:00 Ballroom A
Lunch and Hub Council Meeting

2:00 **Conference concludes**