Challenge X 2007
Outreach Program Report # 2

Instructions: Use this template to provide your team’s outreach program updates. The following are the dates that your outreach reports are due. Report #1: November 26, 2006; Report #2: March 29, 2007; Final Report: May 30, 2007 (please note, a revised template may be provided for the final report). Each of these reports must be posted as a PDF or Word document to your team website by the due date.

Team: Mississippi State University

Name of Outreach Coordinator: Amanda McAlpin

Phone number and email of Coordinator:
Phone: 662-312-8672
Email: amcalpin@cavs.msstate.edu

Dedicated Outreach Coordinator (Y/N): Y

If no, please list other role the O.C. has on your team:

Date posted: March 29, 2007

I. Outreach Plan

• “No changes.”
**II. Outreach Activity Detail**

**A. Media Relations (Requirement of 5 media hits)**
*Please list each media hit or event since your last outreach report. Please number your events below. Please provide copies of any media clips in the Appendix.*

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Media Outlet and Reporter’s Name</th>
<th>Date</th>
<th>Location</th>
<th>Coverage Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print</td>
<td>Starkville Daily News</td>
<td>November 28, 2006</td>
<td>Starkville area</td>
<td>Event: Starkville Christmas Parade</td>
</tr>
<tr>
<td>See attachment 1</td>
<td>Unknown Author</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print</td>
<td>Commercial Dispatch</td>
<td>November 28, 2006</td>
<td>State-wide</td>
<td>Event: Starkville Christmas Parade</td>
</tr>
<tr>
<td>See attachment 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>WOBV Local Channel 5</td>
<td>November-December, 2006</td>
<td>State-wide</td>
<td>Event: Starkville Christmas Parade</td>
</tr>
<tr>
<td>Print</td>
<td>Momentum</td>
<td>Fall 2006</td>
<td>State-wide</td>
<td>Event: Year 2 competition</td>
</tr>
<tr>
<td>See attachment 3</td>
<td>No author</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web</td>
<td>msn.com</td>
<td>January 2007</td>
<td>Internet</td>
<td>No origin event.</td>
</tr>
<tr>
<td>Radio</td>
<td>Strauss Radio, Southern</td>
<td>January 30, 2007</td>
<td>Mississippi region</td>
<td>No origin event.</td>
</tr>
<tr>
<td></td>
<td>Urban Radio Network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>WALT 910</td>
<td>March 12, 2007</td>
<td>Mississippi region</td>
<td>No origin event.</td>
</tr>
<tr>
<td>Print</td>
<td>Automotive Industries</td>
<td>March 2007</td>
<td>Nationwide</td>
<td>No origin event.</td>
</tr>
<tr>
<td>See attachment 4</td>
<td>Author Unnamed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Article in Starkville Daily News**
   - **Date** – November 28, 2006
   - **Location** – *Starkville Daily News* newspaper
Audience – Starkville and county residents
Description – Picture of Challenge X float in the Christmas parade.
See attachment 1.

2. Article in Commercial Dispatch
Date – November 28, 2006
Location – Commercial Dispatch newspaper, Columbus, MS
Audience – Columbus and regional readers
Description – Article on the Starkville Christmas parade, mentioned the Challenge X float.
See attachment 2.

3. Airing of the Starkville Christmas Parade
Date – November – December, 2006
Location – Mississippi region
Audience – Mississippi viewers
Description – The WOBV television station aired the video of the parade with commentary each Tuesday night for 5 weeks. The Challenge X vehicle was shown and a paragraph about the competition was read.

4. Article on Challenge X in Momentum magazine
Date – Fall 2006
Location – Momentum magazine
Audience – Alumni of the engineering college
Description – Momentum is a magazine for MSU’s Bagley College of Engineering alumni. The magazine ran a 2-page spread on Challenge X.
See attachment 3.

5. Article on msn.com
Date – January 2007
Location – msn.com
Audience – Worldwide
Description – An article covering Challenge X was on msn.com, and MSU’s team was listed as one of the teams participating.

6. Interview with Strauss Radio
Date – January 30, 2007
Location – Mississippi region
Audience – Mississippi region listeners
Description – Our faculty advisor Marshall Molen and team leader David Oglesby interviewed with Strauss Radio.

7. Interview with WALT 910
Date – March 12, 2007
Location – Mississippi region
Audience – Mississippi region listeners
Description – Christopher Whitt interviewed as a guest for the morning show on the radio station. During the hour-long show, he described the Challenge X competition in depth. The interview will be uploaded to our website.

8. Article in *Automotive Industries* magazine
   Date – March 2007
   Location – *Automotive Industries* magazine
   Audience – Nationwide readers
   Description – The magazine did an article on our facilities, and included a report on Challenge X, as well as a picture.
   *See attachment 4.*
B. Youth Outreach (Requirement of 3 events)

Please use the chart to provide a list of all of your youth outreach activities since your last outreach report. Also provide a written description below with additional details for each youth outreach activity listed. Please number your events below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Location</th>
<th>Audience</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation to Starkville High students</td>
<td>November 28, 2006</td>
<td>Starkville High School, Starkville, MS</td>
<td>Approximately 75 students, 4 teachers</td>
<td>Ashley Priebe, Youth Coordinator; Brian Christian, Team Member</td>
</tr>
<tr>
<td>Judging science fair</td>
<td>December 7, 2006</td>
<td>Immanuel Christian Center for Education, Columbus, MS</td>
<td>High school teachers and students</td>
<td>Amanda McAlpin, Outreach Coordinator; Brian Christian, Team Member; Neil Littell, Team Member</td>
</tr>
<tr>
<td>Eggcellence Competition</td>
<td>January 19, 2007</td>
<td>Center for Advanced Vehicular Systems, MSU Campus, Starkville, MS</td>
<td>Approximately 60 students, teachers, and parents</td>
<td>Amanda McAlpin, Outreach Coordinator; Heather Olveri, Team Member; David Oglesby, Team Leader</td>
</tr>
<tr>
<td>School visit</td>
<td>February 8, 2007</td>
<td>San Diego, CA</td>
<td>Approximately 75 students</td>
<td>Amanda McAlpin, Outreach Coordinator; Christopher Whitt, Team Member; and 2 members of the San Diego Challenge X team</td>
</tr>
<tr>
<td>Judging regional science fair</td>
<td>March 1, 2007</td>
<td>MSU Campus, Starkville, MS</td>
<td>Approximately 400 students</td>
<td>Neil Littell, Team Member; Ryan Williams, Team Member</td>
</tr>
</tbody>
</table>

1. Presentation to Starkville High School Students
   **Key Participants** – Ashley Priebe, Youth Coordinator; Brian Christian, Team Member
   **Date** – November 28, 2006
   **Location** – Starkville High School, Starkville, MS
   **Audience** – 62 high school science, math, and computer teachers from the region.
   **Description** – Presentation to students and faculty at Starkville High School. Overview of Challenge X and MSU’s progress in the competition.
   **Key Messages**: Emphasize the need for more technology in the alternative fuel area. Studying math and science can lead to careers in engineering and alternative fuel.

2. Judging middle and high school science fair
   **Key Participants** – Amanda McAlpin, Outreach Coordinator; Brian Christian, Team Member; Neil Littell, Team Member; Christopher Whitt, Team Member
   **Date** – December 7, 2006
   **Location** – Immanuel Christian Center for Education, Columbus, MS
**Audience** – Middle to high school students and teachers.

**Description** – Team members judged the science projects in different categories depending on their majors. The students’ teachers told them that the Challenge X was coming to judge their projects beforehand. 

*See figures 1 and 2.*

*Figure 1. Christopher Whitt looking at a science project.*

*Figure 2. Brian Christian scoring a science project.*
3. **Egccellence Competition**

**Key Participants** – Amanda McAlpin, Outreach Coordinator; Heather Oliveri, Team Member; David Oglesby, Team Leader

**Date** – January 19, 2007

**Location** – Center for Advanced Vehicular Systems, MSU Campus, Starkville, MS.

**Audience** – Approximately 60 students, teachers, and parents

**Description** – The team volunteered to help run the Eggcellence Competition, held at CAVS, which invites local K-6 students to compete in a competition where they build cars that will keep an eggs safe when pushed down a steep ramp. The Challenge X team helped students with their vehicles and gave tours of the facilities and the Challenge X vehicle and told the students about the Challenge X competition.

**Key Messages:** General overview of Challenge X. Emphasized the importance of studying math and science.  
*See figure 3.*

*Figure 3. Student tests one of the cars he built during the Eggcellence competition.*
4. **School Visit to Blessed Sacrament Parish School in San Diego, CA**

**Key Participants** – Amanda McAlpin, Outreach Coordinator; Christopher Whitt, Team Member; two members of the San Diego team

**Date** – February, 2007

**Location** – Blessed Sacrament Parish School, San Diego, CA

**Audience** – Approximately 100 students and teachers

**Description** – The Challenge X team visited the school while on a trip to San Diego, CA. They gave a presentation on Challenge X, MSU’s team’s progress, and San Diego’s team’s progress with the San Diego team members.

**Key Messages:** General overview of Challenge X. Highlighted importance of studying math and science. Stressed importance of teamwork in reaching goals and solving problems.

*See figure 4.*

*Figure 4. Christopher Whitt and Frank Falcone prepare for one of the presentations.*
Judging regional science fair

Key Participants – Neil Littell, Team Member
Date – March 1, 2007
Location – MSU Campus, Starkville, MS
Audience – Approximately 250 middle and high school students
Description – Members of our team volunteered from the group to judge the regional science fair held on campus.
See figure 5.
Figure 5. Ryan Williams wears his badge from judging the science fair.


## C. Community Outreach (Requirement of 3 events)

Please use the chart to provide a list of all of your community outreach activities since your last outreach report. Also provide a written description below with additional details for each community outreach activity listed. Please number your events below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Location</th>
<th>Audience</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation to Starkville Civitan Club</td>
<td>November 27, 2006</td>
<td>MSU Campus, Starkville, MS</td>
<td>12 members</td>
<td>David Oglesby, Amanda McAlpin, Outreach Coordinator</td>
</tr>
<tr>
<td>Starkville Christmas Parade</td>
<td>November 27, 2006</td>
<td>Starkville, MS</td>
<td>Local residents</td>
<td>Amanda McAlpin, Outreach Coordinator, Liz Stokes, Heather Oliveri, Christopher Whitt, David Oglesby, Ashley Priebe, Stephen Phillips, Brian Christian</td>
</tr>
<tr>
<td>Presentation at SAE Symposium on Hybrid Vehicle Technology</td>
<td>February 7, 2007</td>
<td>San Diego, CA</td>
<td>Approximately 300 attendees to the conference</td>
<td>David Oglesby, Team Leader</td>
</tr>
<tr>
<td>Display at SAE Symposium on Hybrid Vehicle Technology</td>
<td>February 7-8, 2007</td>
<td>Holiday Inn, San Diego, CA</td>
<td>Approximately 300 attendees to the conference</td>
<td>David Oglesby, Team Leader; Amanda McAlpin, Outreach Coordinator; Christopher Whitt, Team Member; Kennabec Walp, Team Member</td>
</tr>
<tr>
<td>Tour for UQM</td>
<td>February 19, 2007</td>
<td>MSU Campus, Starkville, MS</td>
<td>13 employees</td>
<td>David Oglesby, Team Leader; Christopher Whitt, Team Member; Marshall Molen, Faculty Advisor; Bob Kirkland, Staff Advisor</td>
</tr>
<tr>
<td>Tour for USAMP</td>
<td>February 20, 2007</td>
<td>MSU Campus, Starkville, MS</td>
<td>9 employees</td>
<td>David Oglesby, Team Leader; Marshall Molen, Faculty Advisor</td>
</tr>
<tr>
<td>Presentation at the Mississippi Academy of Sciences Annual Conference</td>
<td>February 22, 2007</td>
<td>MSU Campus</td>
<td>Approximately 45 people</td>
<td>Amanda McAlpin, Outreach Coordinator</td>
</tr>
</tbody>
</table>

1. **Presentation to Starkville Civitan Club**  
   **Key Participants** – David Oglesby, Team Leader; Amanda McAlpin, Outreach Coordinator  
   **Date** – November 27, 2006
Location- Center for Advanced Vehicular Systems, MSU Campus, Starkville, MS
Audience- 12 members
Description – We did a presentation for the Civitan Club in year 2. After the competition, they wanted to come back for an update on the team’s progress. We gave them an update as well as our plans for the current year. See figure 6.

Figure 6. David Oglesby speaks to the Civitan Club.

2. Challenge X float in the Starkville Christmas Parade
Key Participants – David Oglesby, Team Leader; Amanda McAlpin, Outreach Coordinator; Heather Oliveri, Outreach Team Member; Liz Stokes, Outreach Team Member; Ashley Priebe, Youth Coordinator; Stephen Phillips, Team Member; Brian Christian, Team Member; Christopher Whitt, Team Member; Ron Lewis, Team Member
Date – November 27, 2006
Location- Downtown Starkville, MS
Audience- Local residents
Description – The team built a float to exhibit the Challenge X vehicle in the parade. The vehicle was decorated with lights, and displayed Challenge X signs prominently. The vehicle pulled the float, which was covered in snow, presents, and waving team members. The theme for the parade this year was “Christmas around the World,” so the vehicle displayed a sign that read “Made with Parts from Around the World.” We then had flags showing each of the countries that the different parts of our vehicle were made in. The float won “Best Use of Lights” in the judging, earned four media hits, and
earned additional media coverage as the taping of the parade aired a total of 5 times on local television.
See figures 7 and 8.

Figure 7. The MSU Challenge X float.

Figure 8. Crowds at the parade watch the float. Team members sat on the back of the float, surrounded by Christmas presents, lights, and flags.
3. Presentation to SAE Symposium on Hybrid Vehicle Technology

Key Participants – David Oglesby, Team Leader

Date – February 7, 2007

Location - San Diego, California

Audience - Approximately 300 attendees to the conference

Description – David Oglesby, team leader, gave a presentation about Challenge X and MSU’s team’s progress in the competition. At lunch after the presentation, Mr. Oglesby had a reserved table where those interested in his lecture could ask him questions.

Key Messages – Overview of Challenge X. How hybrid technology is being used in the competition.

See figures 9 and 10.

Figure 9. Christopher Whitt waits at David Oglesby’s table.
4. Display at SAE Symposium on Hybrid Vehicle Technology

Key Participants – David Oglesby, Team Leader; Christopher Whitt, Team Member; Kennabec Walp, Team Member; Amanda McAlpin, Outreach Coordinator
Date – February 7-8, 2007
Location- San Diego, California
Audience- Approximately 300 attendees to the conference
Description – Our vehicle was exhibited outside of the conference along with San Diego’s vehicle. Our team was present around the vehicle to answer questions, and we prepared by sending media advisories.
See figure 11.

Figure 11. Christopher talking by the vehicle.

5. Tour for UQM
Key Participants – David Oglesby, Team Leader; Christopher Whitt, Team Member; Marshall Molen, Faculty Advisor; Bob Kirkland, Staff Advisor
Date – February 19, 2007
Location- MSU Campus
Audience- 13 employees
Description – UQM toured our facilities, including the Challenge X vehicle.
Key Messages – Overview of Challenge X and MSU’s progress in the competition.

6. Tour for USAMP
Key Participants – David Oglesby, Team Leader; Marshall Molen, Faculty Advisor;
Date – February 20, 2007
Location- MSU Campus
Audience- 9 employees
Description – USAMP toured our facilities, including the Challenge X vehicle.
Key Messages – Overview of Challenge X and MSU’s progress in the competition.
7. **Presentation at Mississippi Academy of Science conference**

**Key Participants** – Amanda McAlpin, Outreach Coordinator

**Date** – February 22, 2007

**Location** - MSU Campus

**Audience** - Approximately 45 attendees

**Description** – Amanda gave a presentation at the conference on Challenge X and MSU’s progress in the competition, and how the experience was educating students and preparing them for the real world. It was Amanda’s first conference presentation and she was very excited!

**Key Messages** – Overview of Challenge X. How the competition gives students hands-on learning experience.

*See figure 12.*

*Figure 12. Amanda speaks at the conference.*

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D. **Sponsor Outreach (Requirement of 1 event)**

*None for this report.*

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E. **Website**
• We have recently added a new member to the team this semester, who is going to take over the website. We have not had any recent updates to the website.
• We would still like to add several features to the website, including more content.

F. Other

Service: At a team, we donated Challenge X caps and some baseball caps we won at the fall workshop to the Childhood Leukemia Foundation during their drive for hats.

Reported by: Amanda McAlpin, Outreach Coordinator
Patrick Mullins
Ashley Priebe
David Oglesby, Team Leader

Date:
Appendix: Copies of Media Clips

*Please scan in or otherwise paste any clips of media coverage here.*

Attachment 1.
CHRISTMAS PARADE WINNERS NAMED

Top, the float entered by Girl Scout Troop 320 won the award for Best Use of Themes in Monday night's Starkville Christmas Parade. Middle, the Starkville Gymnastics float was recognized as the Most Original Entry in the parade, while the MSU Challenge X team won the award for Best Use of Lights. Above, a total of 39 entries participated in this year's Christmas Parade.
Record Crowd Turns Out for Starkville Christmas Parade

The Commercial Dispatch / Thursday, November 28, 2006

County Courthouse
Supervisor Meeting

On the Agenda: The City

Today's Quote: "You can tell a lot of
Teacher who writes about what they are doing in
Less than 20 percent of city schools have
Teacher. In what other ways can city schools
Cable Drive"
Attachment 3.
In the marketplace, competition has a galvanizing effect on innovation: It stimulates focus on a particular problem and sparks creative solutions. For the same reason, companies, government agencies and others often sponsor collegiate competitions. In this way, they can glean ideas for today and help develop a workforce for the future.

The Bagley College urges its students to take part in such contests. In preparing for a career in engineering, there is no substitute for applied, hands-on experience, especially when it involves the same matters being addressed in the professional arena.

“These teams are designing their vehicles using some of the same software tools that GM uses. Other students won’t get this experience until they start working in the auto industry,” says staff adviser Bob Kirkland of MSU’s Center for Advanced Vehicular Systems (CAVS).

The event is providing not only experience, but exposure as well. Two team members have accepted jobs with GM after graduation, and a former teammate has joined Toyota.

Members who competed in Mesa were Oglesby, Kyle Crawford, CH; Brian Christian, MEd; Ron Levie, EE; Jinyi Matthews, EE; Amanda McAlpin, communications; Stephen Phillips, EE; Joe van Lindenijam, MEd; Kenneth Walp, CPE; and Christopher Whitt, ME. Advisers are Kirkland and CAVS power electronics research professor Dr. Marshall Molen.

A Massachusetts Institute of Technology contest is providing MSU students experience in a biological engineering field that has only existed for six years. The international Genevitically Engineered Machine (GEM) competition, which concludes in November, explores whether simple biological systems can be built from standard interchangeable parts and operated in living cells.

“This concept is in a period – like the pioneering times of other engineering disciplines years ago – where so many things are being discovered and being defined,” states ABE associate professor Dr. Filip To, the team’s adviser. He compares it to the early days of electrical engineering that defined standards like voltage, ohms and watts.

Meeting real world challenges

The Challenge X: Crossover to Sustainable Mobility competition has students tackling some very current issues faced by auto manufacturers. Over a three-year period, teams from 17 institutions are each re-engineering a 2005 Chevrolet Equinox crossover/sport utility vehicle. The goal is to minimize energy consumption, emissions and greenhouse gases while maintaining performance.

The invitation-only contest, sponsored by General Motors (GM) and the U.S. Department of Energy, completed year two last spring with a competition in Mesa, Arizona. Mississippi State placed third with their diesel-electric hybrid vehicle capable of getting 35 miles per gallon.

“None of the universities have done this type of automotive competition before. We’re considered a ‘rookie’ school, so we did exceptionally well,” states team leader David Oglesby, a mechanical engineering graduate student. “Our vehicle’s performance was good, and our plan of attack worked out well.”

The team also won several individual categories, such as best AVL, drive quality, lowest greenhouse gas emissions and best on-road energy use.
Attachment 4.