

Challenge X 2007

Outreach Program Report # 1

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: The University of Tulsa

Name of Outreach Coordinator: Melissa Young

Phone number and email of Coordinator:

Phone: (918) 706-1635

Email: melissa-young@utulsa.edu

Dedicated Outreach Coordinator (Y/N): Yes

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

Date posted: Nov. 26, 2006

I. Outreach Plan

No Changes have been made to the Outreach Plan at this time.

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.

Media Type <i>(Television, Radio, Print)</i>	Media Outlet and Reporter's Name	Date	Location	Coverage Origin <i>(List name of News Release or Event)</i>
1. Radio		May 30, 2006	Oklahoma City, OK	
2. Radio	Oklahoma news network	June 2, 2006		
3. Television	Sarah Spaunhorst, TUTV	August 25, 2006	Tulsa, OK	
4. Print	Tulsa Engineering Foundation Bulletin	August 28, 2006	Tulsa, OK	

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.

Activity	Date	Location	Audience	Participants <i>(Briefly describe which team members participated)</i>
1. Brownie Science Day	October 7, 2006	University of Tulsa, Tulsa, OK	Approx. 100 Girl Scouts, Grades 3-5	Advisor, Dr. Christi Patton, Team members Clara Seaman...
2. SWE Girl's Retreat	October 27, 2006	University of Tulsa, Tulsa, OK	Ten girls ages 17-18	Advisor, Dr. Christi Patton, Team members Amanda Emnett, Andrew Harmon, Scott Rainwater
3. Tulsa Time Activities Fair	November 5, 2006	University of Tulsa, Tulsa, OK	Approx. 100 High School Seniors	Team Leader, Josh Buck, Outreach Coordinator, Melissa Young, Team members Courtney Palmer and Sabrina Jones.

1. Youth activity name: Brownie Science Day Date/Time: 10/7/06 10a-2p
 Location: Keplinger Hall, The University of Tulsa, Tulsa, OK
 Team participants: Advisor Dr. Christi Patton, Clara Seamon...
 Audience: Approx. 100 Girl Scouts, grades 3-5, in groups of approx. 20 at a time
 Activity description/details: Team members used puzzles, games, and activities to teach children about alternative fuels.
 Key Messages Covered: How alternative fuels are different than fossil fuels and how programs and projects, like Challenge X, are going to make a difference to them.
 Any measurable results:
 Photos:

2. Youth activity name: SWE Girl's Retreat Date/Time: 10/27/06 – 10/28/06
 Location: Keplinger Hall, The University of Tulsa, Tulsa, OK
 Team participants: Advisor Dr. Christi Patton, Amanda Emnett, Andrew Harmon, Scott Rainwater
 Audience: Ten high school girls, ages 17-18, interested in studying engineering
 Activity description/details: Team members gave a hands-on presentation with the car to demonstrate Tulsa's project with CX.
 Key Messages Covered: Taught girls about the new areas of research opening up in industry and academia and how alternative fuels play a key role in their development.
 Any measurable results:
 Photos:



Two high school girls standing in front of the Challenge X vehicle with team members Andrew Harmon and Scott Rainwater.



John Henshaw describing the details of the automobile to the group of High School seniors.

3. Youth activity name: Tulsa Time Activities Fair Date/Time: 11/5/06 8p
Location: Allen Chapman Activity Center, University of Tulsa, Tulsa, OK
Team participants: Team Leader Josh Buck, Outreach Coordinator Melissa Young, Team members Courtney Palmer and Sabrina Jones
Audience: Approx. 100 High School Seniors interested in the Challenge X Project
Activity description/details: Car on display with descriptive posters, interested students were given a brief overview of the project and its overall purpose
Key Messages Covered: How Challenge X is helping in the crossover to alternative fueling, why the University of Tulsa is interested, and why one would want to get involved.

Any measurable results: Several students interested in joining the project for Year Four.

Photos:



Several students pose with the car after learning about fuel cells and hydrogen fueling.



Team members pose with the car outside the activity 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.

Activity	Date	Location	Audience	Participants <i>(Briefly describe which team members participated)</i>
1. TU Activities Fair	August 24, 2006	Tulsa, OK	TU students, faculty and staff	Team leader, Josh Buck, Team members Scott Rainwater and Zach Jones with Advisor, Dr. Christi Patton
2. Circle Cinema Presentations	September 5, 2006	Tulsa, OK	Tulsa's interested in alternative fuels (Standing Room Only: approx. 125)	Dr. John Henshaw and several team members showed off the Challenge X project and led a discussion on the current status of alternative fuels in vehicles
3. OSPE Presentation	September 8, 2005	Bartlesville, OK	Professional Engineers of Bartlesville (approx. 20)	Team leader Josh Buck and Advisor Dr. Robert Stratton
4. Circle Cinema Presentations	September 10, 2006	Tulsa, OK	Tulsa's interested in alternative fuels (Standing Room Only: approx. 125)	John Henshaw and several team members (repeat of September 5 event)
5. EST Presentations	September 25, 2006	Tulsa, OK	34 engineers from the Tulsa community	Team Leader, Josh Buck, and Advisor Dr. Robert Stratton
6. American Welding Society Presentations	September 26, 2006	Tulsa, OK	22 industry leaders from the Tulsa area	Team Leader, Josh Buck, and Advisor Dr. Robert Stratton
7. Emerging Energy Technology Expo	October 21, 2006	Tulsa, OK	Industry leaders, Oklahoma political leaders (approx. 50)	Advisor Dr. Robert Stratton, Team Leader Josh Buck, and Team member Scott Rainwater

- Community event name: TU Activities Fair Date/Time: 8/24/06 5p
 Location: Intramural Field, University of Tulsa, Tulsa, OK
 Team participants: Team Leader, Josh Buck, Team members, Scott Rainwater and Zach Jones, and Team Advisor, Dr. Christi Patton
 Audience: Approximately 500 TU students, faculty and staff
 Activity description/details: We showed off our Equinox and talked to potential team members and other interested parties about Challenge X and our team
 Key Messages Covered: GM's sponsorship of the advanced technology car competition and the goals of the competition
 Any measurable results: Approximately 20 new team members
 Photos:



Scott Rainwater sets up our display at the TU Activity Fair



Scott Rainwater talks to two students about the modifications we've made to the Equinox.

- Community event name: Circle Cinema Presentation Date/Time: 9/5/06 5p
Location: Circle Cinema Theaters, Tulsa, OK
Team participants: John Henshaw led discussion, 10 students showed off our vehicle and discussed Challenge X before and after the presentation
Audience: More than 125 people in attendance of the movie "Who Killed the Electric Car?"

Activity description/details: Before the movie, we showed off our Equinox and a previous project in front of the theater. After the movie, Dr. Henshaw led a 30 minute discussion of what the future of advanced technologies and alternative fuels in consumer cars.

Key Messages Covered: GM's sponsorship of the hybrid car competition, the goals of the competition and the measures GM is taking to seek solutions to the US dependence on petroleum

Any measurable results:

Photos:

3. Community event name: OSPE Presentation Date/Time: 9/8/06 12p

Location: Bartlesville, OK

Team participants: Team Leader Josh Buck and Advisor Dr. Robert Stratton

Audience: About 20 professional engineers, the Bartlesville chapter of OSPE

Activity description/details: Presentation on project as a whole, followed by a brief tour of the car to approx. six members of management at the ConocoPhillips R&D Center

Key Messages Covered: Approaches to lowering emissions while improving fuel economy

Any measurable results:

Photos:

4. Community event name: Circle Cinema Presentation Date/Time: 9/5/06 5p

Location: Circle Cinema Theaters, Tulsa, OK

Team participants: John Henshaw led discussion, 10 students showed off our vehicle and discussed Challenge X before and after the presentation

Audience: More than 125 people in attendance of the movie "Who Killed the Electric Car?"

Activity description/details: Before the movie, we showed off our Equinox and a previous project in front of the theater. After the movie, Dr. Henshaw led a 30 minute discussion of what the future of advanced technologies and alternative fuels in consumer cars.

Key Messages Covered: GM's sponsorship of the hybrid car competition, the goals of the competition and the measures GM is taking to seek solutions to the US dependence on petroleum

Any measurable results: Approaches to lowering emissions while improving fuel economy

Photos:



Television crews attended the event at the Circle Theater. Unfortunately, it turned into a busy news day and we did not actually get any air time!



Many Tulsans were intrigued by the modifications we've made to the Equinox and the promise for cutting petroleum usage for the future.

5. Community event name: Engineer's Society of Tulsa Presentations

Date/Time: 9/25/06

Location: Tulsa, OK

Team participants: Team Leader Josh Buck, Advisor Dr. Robert Stratton

Audience: 34 engineers from the Tulsa area (all fields)

Activity description/details: Presentation on project as a whole, followed by a brief tour of the car to most of the attendees

Key Messages Covered: Approaches to lowering emissions while improving fuel economy

Any measurable results:

Photos:

6. Community event name: American Welding Society Date/Time: 9/26/06
Location: Tulsa, OK
Team participants: Team Leader Josh Buck, Advisor Dr. Robert Stratton
Audience:
Activity description/details: Presentation on project as a whole, followed by a brief tour of the car to most of the attendees
Key Messages Covered: Approaches to lowering emissions while improving fuel economy
Any measurable results:
Photos:
7. Community event name: Emerging Energy Technology Expo 2006
Date/Time: 10/21/06 10a-2p
Location: Mohawk Park, Tulsa, OK
Team participants: Advisor Dr. Robert Stratton, Team Leader Josh Buck, and Team Member Scott Rainwater
Audience: Approx. 50 professionals and political figures interested in alternative fueling, including U. S. Congressman John Sullivan, Oklahoma Secretary of State and former Tulsa Mayor Susan Savage, and Tulsa County Commissioner John Selph. About 15 other alternative fuel and hybrid vehicles were in attendance.
Activity description/details: Presentations and panel discussions that focused mainly on the specific goals of Challenge X
Key Messages Covered: Advantages of alternative fuels and comparisons between several fuels and hybrid vehicles.
Any measurable results:
Photos:



Team Leader Josh Buck at the opening of the Expo with Tulsa's Challenge X Vehicle



Tulsa's Challenge X vehicle and several other similar vehicles on display.

D. Sponsor Outreach (Requirement of 1 event)

As of this update, TUCX has no sponsor events to report.

E. Website

Please list any updates or modifications to your team's website since your last outreach report, including:

- *new additions in functionality*
- *new look/design*
- *special features*
- *Please include at least one screen grab of your team website below*

No substantial modifications have been made to our website at this time. We have added a photo of the winner of the "TU Golden Wrench Award" to the site.



Winners of the TU Golden Wrench Award:

November 2006: Jim Fox



Jim Fox

F. Other

Please provide any other information on your team's outreach program developments not covered above.

None at this time

Reported by: Melissa Young

Date: 11/24/06

Appendix: Copies of Media Clips

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

August 28, 2006

Challenge X, Intercollegiate Design Competition

The students at the University of Tulsa's Hurricane Motor Works have been designing and building hybrid-electric vehicles (HEVs) for 15 years. Their fourth generation HEV for the ChallengeX intercollegiate design competition is on the road. ChallengeX is a collegiate design contest managed by the Department of Energy and sponsored by General Motors and other major companies. 17 universities are modifying Chevrolet Equinox vehicles to demonstrate improved the fuel efficiency and reduced emissions.

The students analyzed various strategies and chose system architecture during the first year (2004-5) of the ChallengeX competition after being selected as one of the 17 university teams in a proposal competition. The Equinox was delivered during the summer of 2005 following the first year competition at General Motors' facilities in Detroit, MI. The TU vehicle has been converted into a through-the-road parallel diesel-electric hybrid. The Tulsa team placed 8th among the 17 teams at the dynamic test competition in June, 2006 at General Motors' Desert Proving Grounds in Mesa, AZ. The third year of the project will involve improving the vehicle's performance and utility and adding an auxiliary fuel cell subsystem.

Dr. Strattan will give a general overview of the evolution of HEVs in the marketplace and at TU. Joshua Buck

will describe the ChallengeX activity underway at TU and report on the results of the June competition.

Robert. Strattan is Emeritus Professor of Electrical Engineering and Adjunct Professor of Mechanical Engineering at the University of Tulsa. He has been a faculty co-advisor to the university's hybrid electric vehicle project for 14 years. He has personally driven a HEV for nearly 6 years. He is a licensed Professional Engineer in Oklahoma and has electrical engineering degrees from Wichita State University and Carnegie Mellon University, is a life senior member of IEEE and a member of other professional-technical societies including SAE, ASEE, and OSPE- NSPE. He is retired from 31 years of teaching and research at the University of Tulsa and has been active in the aerospace industry in the research and development of stealth technology.

Joshua Buck is an electrical engineering graduate student at the University of Tulsa. He is the student team leader for the ChallengeX project as well as serving as the control systems team leader. He has been active in the HEV projects through most of his undergraduate years. He has intern experience at Zebco and was a Summer Undergraduate Research Fellow this summer with the National Institute of Standards and Technologies in Gaithersburg, MD. He is active in the IEEE Student Branch and other student organizations.