

RAYCE COURSE

APRIL 2005

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TEAM BECOMES BIG PRESENCE ON CAMPUS

The Solar Vehicles Team, in the last few months, has participated in several UT-sponsored events, reinforcing its role as an active representative of the university. The team recently participated in the Women in Engineering Program's Introduce a Girl to Engineering Day, and Explore UT, both of which are major campus events that gave the team university-wide exposure.

At Introduce a Girl to Engineering, girls in the 1st through 9th grades from all over Texas were invited to come to the UT campus and learn about becoming engineers. Explore UT incorpo-



Visitors speak to members of the Solar Car Team at Explore UT.

rates the entire university, and is a chance for both current and prospective students and the public to see what UT has to offer. The SVT was proud and

honored to be a part of these events, and is looking forward to becoming a tradition of excellence within the UT community.

SHOP MOVED TO PICKLE RESEARCH CENTER

MEETING TIMES

- **General:**
Wednesdays 5 PM
ENS 109
- **Mechanical:**
Fridays 5:00
ENS 416
- **Electrical:**
Fridays 4:30 PM
ENS 416
- **Integration:**
Saturdays 10 AM
ENS 416

Due to a lack of space and construction obstacles, the team has found a new home at UT's Pickle Research Campus, located in Northwest Austin. The new space is much larger, with a cavernous interior that is ideal for the body fabrication currently underway.

Previously, the team's old cars have been stored at the Pickle campus, but this is the first time that the team will have an entire workspace there exclusively for the Solar Vehicle



A view of the front of building 120, the Solar Vehicle Team's new home at the Pickle Research campus.

team's use. The team would like to thank Dr. Randall J. Charbeneau, Associate Dean of

the College of Engineering, for his help in acquiring this space.

MECHANICAL AND BODY UPDATES

Body

The body is currently being fabricated by hand by the team, with the help of a Styrofoam plug machined by Texstars and donated by Powerfoam Insulation.. This is a difficult and laborious task, but the team members are optimistic about the work.

Rollcage and chassis

The rollcage design has been modified for simpler construc-

tion, and the cutting and welding of the pieces is underway.

Suspension

Both the front and rear suspensions have been designed and are being tested and built. Supports, brake mounting, and shock mounting all had to be incorporated, along with accurate and safe mounting to the chassis.

Building



Along with the body fabrication, mesh bellypan and mounting other building in the shop includes installing an aluminum wheel.

ELECTRICAL UPDATES

Power Trackers

The power trackers have arrived, and testing is currently underway with the new solar cells and substitute batteries. In a solar car, where factors like cloud cover and available sunlight will drastically change the power output of the cells, the optimization by the power trackers are crucial to operating at maximum efficiency.

Microcontroller

The microcontroller measures voltages from the array and battery and sends that information to both an LCD display in the cockpit and to the laptop in the chase vehicle. The microcontroller requires extensive programming, and the electrical team is hard at work writing and perfecting the necessary software.

Array

The laminated solar cells have

arrived, and the team is ready to begin testing them. As soon as the body has been fabricated, assembly of the array will begin. Due to recent funding, the team is looking into replacing sections of the array that originally had lower efficiency cells planned with high efficiency cells. In the array, it is critical that damaged cells can be removed and replaced easily, so various adhesives and connections are also being tested.

Batteries and Motor

Though the batteries and motor have long since been ordered, both have shipping delays that have been an unexpected setback for the team. The batteries were damaged in shipment from Germany, and NGM is behind in the motor assembly. Both products, however, should be received well before scrutineering in May.

FUNDRAISING

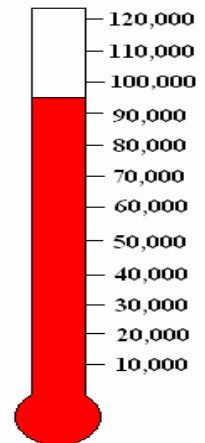
After very generous support from The Office of The President and Austin Energy, the team is pleased to announce that the original fundraising goal, which was set at the lowest amount possible to build the car and compete in the rayce, has been achieved. New funding from President Larry Faulkner, as well as Austin Energy and IBM, has

added \$41,000 to the teams efforts, bringing the total to \$94,100, which is \$4,100 more than our original budget called for.

The additional money will be used to improve the car, by buying items like more efficient solar cells; supplement the travel costs for the team, both to the qualifier in May and for

the actual rayce in July; and for the expenses that will be accrued in hosting the start of the race. Everyone on the team is grateful for the generous donations made by our sponsors, and is prepared to have an outstanding rayce result this summer to show our appreciation.

Fundraising



THE TEAM WOULD LIKE TO THANK OUR CURRENT SPONSORS:



Austin Sheet Metal



Austin Plumbing and Pipe Fitting



Baer Engineering and Environmental Consulting, Inc.

We are on the web!

<http://utsvt.ece.utexas.edu>

**UT AUSTIN SOLAR
VEHICLES TEAM**

Dr. Gary Hallock – Faculty Advisor

The University of Texas at Austin

Electrical and Computer Engineering

1 University Station C0803

Austin, TX 78712-0240

(512)471-4965

The University of Texas at Austin



Solar Vehicles Team

Dr. Gary Hallock – Faculty Advisor

Cody Conger

Pawan Agarawal

Brandon Baltis

Ankit Barasia

Vivek Barve

Richard Browne

Andrew Cave

Ivan Caceres

Thomas Deconinck

Jeffrey Dietrich

Chenzhou Fei

Samaneh Gharahi

Geoff Grimes

Terry Ha

Adrianus Hitijahubessy

Jong-Eun Hong

Eric Houston

Kelsey Innis

John Kerzaya

Yue Kuang

Alexander Lee

Phu Nyugen

Tanner Moore

Seil Oh

John Olsavsky

Sandeep Pahl

Shiva Pejmanaryan

Colin Petersen

Jerome Powell

Meredith Reese

Mario Sanchez

Thomas Schipper

Joss Scholten

Melissa Sconyers

Nishay Sharma

Ji Son

Derek Sowell

Anna Temple

Paul Taelle

Rodrigo Trevino

Florin Vasile

Jeffrey Walters

Chen Zhoufei