

EEVC NEWSLETTER

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Now affiliated with EAA

RESULTS: 21ST CENTURY AUTOMOTIVE CHALLENGE 2011 Dr. Joel Anstrom, Penn State

This article is based on a talk presented by Dr. Joel Anstrom at the June 8th EEVC meeting at Plymouth White Marsh High School, Plymouth Meeting, PA – ed.



The purpose of this article is to

recognize those in the EEVC who participated in the annual 21st CAC at Penn State and to increase awareness of this unique and worthwhile Alt-fuel competitive event. We would like to increase future participation, especially in the electric and hybrid categories.

The goals of the 21st Century Automotive Challenge are to reward efficiency in transportation considering not only equivalent petroleum mpg but efficiency in moving both people and cargo from A to B in practical real life situations. At Penn State I am responsible for the rubric that establishes the

Cars on display in front of Plymouth Whitmarsh High School before the 21st CAC 2011 Awards Presentations.

categories and award system. Measuring fuel mileage is only one part of the challenge. We do not have the details of this rather complex scoring system available at this time.

For three consecutive years my Penn State students

and I have been working on developing a competitive fuel-efficient event that evaluates performance of economic and environmental importance and makes comparisons across a wide range of vehicle types. For example the ability for a shopper to accept a charge off a solar grid and to know how to best utilize a charge while traveling about town, in terms of the time of day that the charge is acquired, is factored into the scoring system of the electric and plug hybrid vehicles.

EEVC members have participated in this evolving event, helping to hammer out the

difficulties in hosting such a competition. It is our conviction that the ultimate challenge in 21st Century transportation is moving people and cargo as economically as possible and with as little fossil fuel dependence as possible. We need a clean environment and a sustainable energy based transportation system. In order to best achieve this goal we need to consider many kinds of alternatives and encourage many types of research. The Penn State competition puts ideas on the test track and attempts to put measurable results on the window stickers. People want to know how cars and trucks comparatively perform in the real world, which is presently dominated by the petroleum industry.

The following awards were presented at the June 8th meeting:

Don Auker: Tesla, First Place in Production Light Duty Highway Category 1000/1000 pts.



Don Auker accepts first place recognition from Dr. Anstrom (Penn State) in Production Light Duty Highway Category.

Don averaged about 131 mpg in gasoline equivalency fuel efficiency. He holds the electric car range record with approximately 238 miles of mountain road driving. Don was not asked to duplicate the feat this year for time reasons. His greenhouse gas emission was 73 grams of carbon dioxide per mile. He had the overall fastest time on the autocross with 52.64 seconds. Don tied for second in this category with a petroleum displacement of 147 gallons of gasoline.

Dr. Paul Kydd: F-150 Pickup hybrid Conversion, First in the Independent Light Weight Local 5 seat Category- 926 /1000 pts



Dr. Paul Kydd accepts first place in Independent Light Weight Local Category

Paul's truck averaged 15.6 mpg In cargo he had 600 cu ft miles per gallon, 813 grams of carbon dioxide per mile. Third overall in range.

Jonathan Bartlett: VW Jetta Bio-Diesel, First in 3-5 passenger lightweight duty highway. Scores not available at printing. Jonathan was not present at the award ceremony.

Ed & Kreibick: VW Jetta Diesel, 2nd in 3-5 passenger lightweight duty highway 550/1000 pts



Jim Kreibick accepts second place recognition in Bio-Diesel division.

The VW averaged 46.3 mpg and displaced 120 gallons of petroleum per year.

Battery Powered Pure Electric Conversion Category

Methacton High School: Two Seated Lomax, Three Wheeled, First Place in Local Lightweight Div. 920/1000 pts.



Methacton High School accepts first Place in Battery Only Conversion Category.

The Methacton High School team achieved the highest overall fuel efficiency of 163.4 mpg. (The lowest polluting car in the Progressive Insurance sponsored X-Prize was the Edison2 company's very light four seater which scored 129 mpg with a gasoline driven engine). Best over-all 324 seat miles per gallon, first in greenhouse gas emission 33.5 grams per mile, tied for first in displacing 147 gallons of gas per year, first in local range with 71.39 miles.

Ken Barbour: Converted Geo Metro Convertible, 2nd place 710/1000 pts



Ken Barbour accepts second place in Battery Only Conversion Category

Average Fuel Economy 121.4 mpg, 1213 cubic feet per mpg, 147 gallons of petroleum displacement (tied for first overall) 2nd place in div for range 69.4 miles, 2nd in division for autocross at 79 seconds.

Alan Arrison: VW Pick Up Conversion, 3rd place 608/1000 pts



Alan Arrison accepts third place in Battery Only Conversion Category.

Average fuel economy 112 mpg gasoline equivalent, 224 seat mile per gallon, 893 cubic feet mpg, 76 grams of carbon dioxide per mile greenhouse gas emission, range 46 miles, first in his division in autocross 63.52 seconds, tied for 1st overall in number of gallons of gasoline displaced with 147.

Video available

The 15 minute video review of the 21st CAC 2011 at Penn State is now on the www.eevec.info web site. Let's all thank Lindy Groening for making this possible.

There is also a direct link at <http://vimeo.com/25716190>

EEVC REMEMBERS EUGENE LEMIEUX



Jim and Ed Kriebick (Team Kriebick) won the EEVC Member Over-All-Best Performance Award in the 21st Century Automotive Challenge 2011 at Penn State held this past May. Jim and Ed competed in the Bio-Diesel category with their newly acquired VW Jetta.

The EEVC is memorializing Gene Lemieux by creating the first annual Outstanding Performance Award to be given to an EEVC member participating in the 21st Century Automotive Challenge at Penn State.

When considering the EEVC entrants who participated in the 21st CAC, the Kriebick team of Ed and Jim Kriebick became an obvious easy choice to receive this prestigious award.



Two of Eugene Lemieux's daughters attended the June EEVC meeting to participate in the presentation of our first annual "The Eugene Lemieux Outstanding Performance Award." Pictured on the left are Marian Lemieux DeVito, and Margaret (Peggy) Lemieux Michalchuk. Pictured on the right are Jim and Beverly Kriebick.

Eugene loved to support students who participated in the Tour de Sol. Eugene himself was experienced in diesel engine maintenance and was known for his diesel driven buses. Jim and Ed competed in the bio-diesel category, and Jim is a student at Penn State.

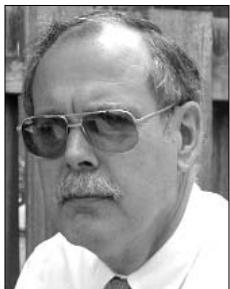
Ed Kreibick competed in two Tour de Sols helping to maintain and drive the Olympian. Ed was one of us who spent time on Eugene's bus while on tour, even using it for sleeping quarters. Ed was good friends with Eugene.

Eugene carried an electric Citi Car in the cargo space of his bus for transportation in and around campsites. The Kreibicks sold electric cars at one time and were knowledgeable of the Citi Car.

Nobody was more deserving of the award than the Kreibick Team. There is no question that Eugene, if he were alive today to chose the recipient of the award, would have chosen the Kreibick team. No other family will appreciate the award more than the Kreibicks.

The newly created annual award is meant to be presented in place of the annual award honoring the EEVC participant who wins the overall best EEVC entry in the "21st Century Automotive Challenge." Last year our overall best EEVC participant was Brandon Hollinger. The year before, Alan Arrison. This year's winner was the father and son team of Jim and Ed Kreibick who competed in the Bio-Diesel category.

WHAT DIDN'T HAPPEN By California Pete



It seems the entire population of Los Angeles, whipped to a frenzy by local, state-wide and even national news coverage, looked with terror to July 17 and 18 as the end of the world – or at east the end of traffic as they know it – as a ten-mile stretch of I-405 was due to close.

The 405, as it is called, is a major artery running between Los Angeles and the north, and, like most of the L.A. freeways, is regularly brought to a standstill by rush-hour traf-

fic (500,000cars per day). But the 53-hour closing to demolish a bridge over the highway was supposed to be something else entirely: Carmageddon!

Well, people apparently took the warnings to heart and, curbing their most basic Angeleno instincts, stayed home. Traffic on the other roads flowed normally and the event passed with little to show for it. But I guess sounding the alarm was fun while it lasted.

No more Tesla Roadsters

Tesla Motors, the company that arguably made EVs cool, will stop making the Roadster model that put it on the map, if not in the profitable-firm column. Sales had reached 1650 by the end of April, but the intention had always been to limit production of the speedy Roadster model, and as of the end of this year, the end will come. But not to worry: the Model S sedan is supposed to be available some time in 2012, and if the company can stay afloat we may actually see a going concern.

But Tesla is still doing business

On July 21 the *San Francisco Chronicle* carried a report that "Tesla Motors has signed a \$100 million deal to build the power train for Toyota's electric Rav4." Tesla will provide "the Rav4's battery, charging system, motor and gearbox, according to a filing with the U.S. Securities and Exchange Commission. Production of the compact SUV is expected to begin next year and continue through 2014."

Rent explosion in SF

With the real estate market still in the doldrums, renting is becoming more attractive — especially in San Francisco, which has been working hard to attract high-tech businesses like Twitter, Zynga and others. As a result there are now waiting lists for apartments in some trendy areas, and rents have jumped. According to *Fortune* the average rent for a studio or one-bedroom apartment in the newly-fashionable SoMa (South of Market St.) neighborhood has gone from \$1400 to \$2100 in 2009 to \$1700 to \$2500. For a two-bedroom apartment it's gone from \$2800 to \$5200 to \$3400 to \$7500. And word has it that rents are even higher in San Jose, where there has been a tech renaissance.

NEWS UPDATE

First public charging station in Phila

The first public EV charging station in PA was inaugurated in Nov, 2010, at the Port Plaza Liberty service station, 1600 S. Christopher Columbus Blvd. A video of the ribbon-cutting, with EEVC participation, has now been posted to YouTube. It can be seen at www.youtube.com/watch?v=BypkJPdg0IQ. The EEVC's Don Auker was the first to charge an EV (his Tesla Roadster) at the station.

Think bites the dust — maybe

Think, the Norwegian maker of small EVs whose history dates back to the '90s has been reported defunct. A June 23 *Greentech Media* article reports that Think's parent, battery maker Ener1, announced that it was liquidating the car maker due to lack of capital.

But then on July 20 AllCarsElectric.com blogger Nikki Gordon-Bloomfield cited Norwegian online business newspaper NA24 that Russian businessman Boris Zingarevich has bought Think.

This was later confirmed by a July 25 *Forbes* report by Todd Woody that Zingarevich has set up a Norwegian company called Electric Mobility Solutions to build the Think.

Charging your Karma

Buyers of Fisker Automotive's Karma luxury plug-in hybrid will not have to worry about charging at home; the company, according to *The New York Times* for June 22, has made a deal with Culver City, CA-based EV Connect to install wall-mounted 240-Volt stations in buyers' homes.

GM unveils Beat EV for India

A *New York Times* story dated June 27 reports that GM recently showed a prototype of an EV aimed (perhaps) at the Indian market. It's based on the Chevrolet Beat microcar.

Renewables produce more energy than nuclear

Greentech Media reports on a study by the U.S. Energy Information Administration (EIA) that found that "renewable energy has passed a milestone: domestic production is now greater than that of nuclear power."

Ad hoc vehicle-to-grid in Japan

A July 19 story by AP business writer Yuri Kageyama reports that Toyota Motor Co has outfitted 40 Prius hybrids with the ability to generate electric power for outside use. The idea is to help alleviate power shortages in the earthquake-ravaged northeast part of the country.

V2G in Denmark?

Greentech Media on June 20 ran a piece on Vehicle-to-Grid technology, with a good and simple explanation of what it's supposed to do. In essence, V2G allows large numbers of EVs or plug-in hybrids to both take energy from the grid and feed energy into it. The idea is that the high-capacity batteries of thousands of grid-connected EVs would act as a huge load-leveling battery on the nation's electrical system, absorbing surges in energy when, for example, winds blew hard over wind farms, and then returning it when things slow down.

The story then describes a project going on in Denmark using technology from the University of Delaware by a company called Nuvve (www.nuvve.com).

Nissan to build Leaf motors in TN

A July 22 story by AP's Bill Poovey reports that Nissan "will build motors for the electric Leaf at its engine plant in Decherd, Tennessee, starting in early 2013 as the automaker expands production.

"The plant will be able to make up to 150,000 electric motors a year."

Daimler, Bosch in EV motor deal

In other motor news, Daimler AG and Robert Bosch GmbH on July 14 announced a 50:50 joint venture for electric motors. The new company, to be set up under the name EM-motive GmbH, will develop and produce innovative EV motors.

AEP pulls out of carbon capture

Carbon capture and storage continues to go essentially nowhere. American Electric Power has announced that it is stopping a commercial-scale carbon capture and storage project at its coal-fired Mountaineer power plant in New Haven, WV, according to a July 14 report by the AP's Doug Whiteman. AEP cited the current economic climate.

Solar shines brightly

On a somewhat brighter note, *Greentech Media* on June 16 cited the U.S. Solar Market Insight: Q1 2011 report from the Solar Energy Industries Association and GTM Research report by that found that “The U.S. solar energy industry continued to be one of the fastest-growing sectors of the economy in Q1 2011,” with 252 MW of grid-connected PV installed, a “66 percent year-over-year growth over Q1 2010 installations.”

COMING EVENTS

Hands-on EV Conversion Workshop

July 25-30, at the Middle Bucks Institute of Technology, Jamison PA. For info go to <http://sites.google.com/site/wwwbuckscountyrenewables/newhome/ev-conversion-workshops-2011/July>. For registration info email info@buckscountyrenewables.com

American Renewable Energy Day

Aug 17-21, Aspen, CO. www.areday.net/

AltWheels Fleet Day

Sept 19, Norwood, MA. For information go to www.AltWheels.org.

RETECH 2011: The Renewable Energy Technology Conference & Exhibition

Sep 20-21, Washington. www.retech2011.com

Battery Power 2011

Sept 20-21, Nashville, TN. Go to www.batterypoweronline.com/bppt-conf11/bp11_index.php

DoE Solar Decathlon 2011

Sept 23-Oct 2, Washington, DC. Go to www.solardecathlon.gov/

EV Battery Tech USA

Sept 27-28, Troy, MI. www.ev-battery-tech.com/

World Solar Challenge

Oct 16-23, from Darwin to Adelaide, Australia. Go to www.worldsolarchallenge.org/

The Networked EV: Smart Grids and Electric Vehicles

Oct 20, San Francisco. www.greentechmedia.com/events/live/the-networked-ev-2011/

The Battery Show

Oct 25-27, Detroit www.thebatteryshow.com/

SAE International 2011 Vehicle Battery Summit

Nov 14-15, Shanghai. Go to www.sae.org/events/battery/?&PC=11VBSSDEML&PCN=6125556048

SAE 2011 Powertrain Electric Motors Symposium for Electric and Hybrid Electric Vehicles

Nov 16, Shanghai. Go to www.sae.org/events/training/symposia/emotor/?&PC=11EMOTSDEM&PCN=6125556048

Solar POWER-GEN Conf & Exhibition

Feb 14-16, Long Beach, CA. Go to www.solar-powergen.com/index.html

EVS26

May 6-9, Los Angeles. www.evs26.org/

MEETING SCHEDULE

Meetings are held in Room 49, Plymouth-Whitmarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m. There will be no meeting in August.

September 14

October 12

November 9

December 14

ADVERTISEMENTS

*****FOR SALE*****



1993 Kewet El-Jet electric car with 12,000 kilometers being sold as is, no warranty. The Boyertown Museum is taking offers for this car. For more information and pictures contact: Joe Alackness Projects Manager 610-367-2090 610-948-9077 joe@boyertownmuseum.org