

Fox Valley Electric Auto Association

PO Box 214

Wheaton, IL 60187-0214

Return Service Requested

AUG 2013 FVEAA Newsletter

The FVEAA is a Not-For-Profit Illinois Corporation and the Chicago Area Chapter of The Electric Auto Association

Note: Meeting Date and Place This Month

Next Meeting

Aug. 16, 2013

Community Christian Church

1635 Emerson Lane, Naperville, Illinois 60540

at the intersection of Ogden and Rickert Drive in Naperville

Also called the "Yellow Box." We'll meet in the little theater west side, 1st floor

DOORS OPEN 6:30 p.m. MEETING STARTS 7:00 p.m. ENDS 9:15 p.m. Directions:

[Community Christian Church](#)

Agenda

- 6:30 Doors Open
- 7:00 Call to order - Welcome
- Committee Reports
- Old business / New Business
- Upcoming Plug-in Day 2013 Plans
- Review - Jim Schmidt's Electric Boat Open House
- Break
- Chuck Carrington experiences with electric 1975 Midget and Nissan Leaf
- Marty Belovitz - The Electronic Throttle (Versus Potentiometer)
- Close

FVEAA is now on Facebook thanks to member Grant Gerke. Check it out at

<https://www.facebook.com/FoxValleyElectricAutoAssociation?fref=ts>

President's Words

Bruce Jones

Hi EVeryone,

Last month on July 19th Vice President Rich Hirschberg ran the meeting which started off with a video of Perry McFarland's Henny Kilowatt (an electric 1960 Renault Dauphine) and he reviewed the upcoming outreach events. The highlight of the meeting was **Jim Schmidt's awesome Electric Boat presentation.**

Jim then held an open house on Saturday the 20th which had a fantastic turnout on a beautiful day up in McHenry. Everyone was given a tour of his shop and the amazing woodworking he has done for this uniquely designed electric boat. He was also joined by who showed his solar powered canoe "CalypSol" that had traveled down the Mississippi.

This month we will feature presentations on the following;

Plug-in Day 2013 - STRENGTH

Plans are starting to come together for Plug-in Day 2013. We, the FVEAA are the prime point of contact for this event in the entire Chicago area and we are looking to use Naperville's vehicle test track just off Ogden Avenue in Naperville for the displays and ride 'n drive. I've been working with Nissan NA on coordination for this event and they are also looking to draw people by holding it in conjunction with an **International Police and Fireman Olympics**. It turns out that one of the strongest men in the world is a policeman in Naperville so the media coverage should be quite thorough. The theme will be centered around Human Strength and the Strength of Electric Vehicles. Date will be Sept 28 or 29 at a time depending on final details from the test track coordinators. Stay tuned.

Electric Boat(s)

We'll have photos and videos of Jim Schmidt's Open House for his beautifully designed Electric Boat. For those who went, it was certainly worth the trip, and John Jeide treated the group with a round of songs with his barbershop quartet. A solar powered canoe - CalypSol captained by Raymond Christe was also there and we'll have some videos of the salient (*sail-ient?*) highlights.

Electronic Throttle Accelerator

Marty Belovitz will then present his recent in-depth work on electronic throttles versus using potentiometers as an accelerator for electric vehicles.

Experiences with Electric 1975 Midget and Nissan Leaf

Chuck Carrington is preparing to talk about his experiences with electric vehicles including his classic 1975 Midget convertible (electric), and his 2012 Nissan Leaf.

Hope to see Everyone there!

Sincerely

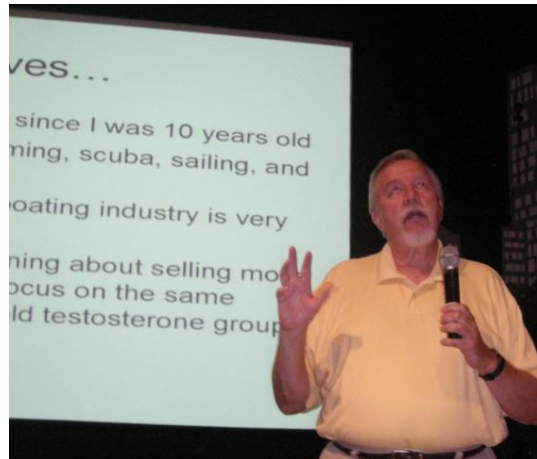
Bruce



Perry McFarland's electric Henry Kilowatt



Jim Schmidt describing how he thought about designing his boat years ago



Jim Schmid's unique laser pointer



Presentation - in the little theater at Community Christian Church





Christine Caridi with Bruce Jones showing the electric motor that used to power the food van that she uses to haul fresh vegetables and fruit for under-resourced people in the community.



VP Rich Hirschberg with Grant Gerke and his Tesla Model S



John Jeidi's Barbershop Quartet in front of Jim's electric boat



Solar Powered Canoe from "Calypsol"



Dennis Doney's Zap truck in Mouse disguise!



Mousie from the front

The California Center for Sustainable Energy (CCSE) announced in May the results of their recent survey of plug-in electric vehicle drivers. This survey will open many minds. See:

http://energycenter.org/sites/default/files/docs/nav/transportation/cvrp/survey-results/California_Plug-in_Electric_Vehicle_Driver_Survey_Results-May_2013.pdf

Several facts are interesting and/or troubling:

- 96% of the PEV drivers surveyed own their own home
- 56% received a free or subsidized charger
- 58% of those PEV drivers indicated that having HOV (high occupancy vehicle lane) access was an important part of their decision.
- 92% of drivers covered 45 miles per day or less
- 92% expressed overall satisfaction with their EV

But:

- Only 10% of these EV drivers are happy with a range of 100 miles or less
- Another 32% would be happy if the range was up to 150 miles (total percentage 42%)
- More than half the people in the study are not happy with range until it exceeds 150 miles.

This indicates that even though these people are happy with their cars and they were an appropriate choice for their needs, that a rather high percentage of EV drivers have a significant desire for more range.

Obviously, until the marketplace develops new batteries that are capable of these ranges at an affordable price, we'll have some owners who have expectations that are not met.

One of the difficulties in batteries is testing. Automotive testing has many, many variables, including how aggressively the vehicle is driven, terrain changes, speed, ambient temperature, etc. Real world testing takes many, many charge-discharge cycles to determine long term expectations.

One way to accelerate battery testing is to accurately measure Coulombic Efficiency. CE is simply the ratio of the energy delivered during discharge to the energy stored during recharge. If CE is a known amount, and if the CE has a predictable decline over a batteries life, then we have a much better method to predict long term expectations.

Industry leaders are looking at 5,000 to 10,000 cycles, which might well reflect eight or nine years as a warranty period. Without good data on CE, any battery chemistry or structure change would take several years to determine the value of that change. In addition to the changes in chemistry or structure, we can fairly easily test variables in charging or in use. It would be reasonable to test CE over 50 cycles with a fast charger, vs a slower charger, and to compare a tapering charge system.

Battery manufacturers are trying to contain the multiple variables in their testing, so the testing becomes more meaningful. They list four factors that must be controlled and measured accurately:

- Accurate current control with high resolution readings
- A very accurate cut-off voltage
- Very fast sampling
- Extremely high temperature stability

If you thought that this was mostly useful in EVs in more temperate conditions, you don't realize what some of the major manufacturers are working on. Dana Holdings makes axles, driveshafts, sealing and thermal products for the vehicular industries. Dana has just received two grants from Natural Resources Canada (total \$3 million) for improved processes on heat exchangers for batteries, and for integrating thick-film electric surface heaters into the battery cooling heat exchanger. Both grants will be done with work completed at Dana's technology center in a suburb of Toronto. This is only one of several research objectives which directly impact batteries and EV's in colder climates.

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Meeting Minutes 07/19/2013

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Welcome

Fveaa meeting July 19, 2013

Vice President Rich Hirschberg opened the meeting and had visitors introduce themselves.

He showed a video of an old 1960 Henney Kilowatt, owned by Perry McFarland of downstate Illinois.

The Henney Kilowatt was based on a Renault Dauphine. Perry contacted the FVEAA several months ago after he found this old electric and has restored it to working order. See the video at

<http://www.youtube.com/watch?v=8Nsm1iOQL7I&feature=youtu.be>

Rich then reviewed the upcoming outreach events including

- The farmers market in Elgin
- North Aurora days 2,3,and 4th
- Naperville last fling on Labor Day where Todd Dore and Tesla owners will participate

Other news includes

- Tesla building a battery charging facility near Rockford
- Electric vehicle showing at Ken Weger's Small Wonders Micromini car museum Aug 4th
- Check out the Facebook page for the FVEAA open to everyone

Break outside cars lookout

Jim Schmidt's Electric Boat

After the break, Jim Schmidt presented Part 1 of his Electric Boat Project.

The beautifully crafted wooden boat is in the middle of construction and will be completed in about a year. He started dreaming about having an electric boat since he was 10. Jim loves the water and thinks the boating industry is very backwards showing little or no innovation over the years. The boat industry always complains about selling more boats but they continue to focus on the same kinds of old designs. He wanted his boat to be electric, and create interest.

Jim's 29 foot electric boat includes many innovative design elements like a unique tube shield for the propeller, solar panels besides all the benefits of electric propulsion.

Design Goals

The boat was designed for seniors and ladies, so two people could escape for a leisurely 3 day weekend like the Florida Inter-coastal waterway. Most electric boats are designed for small ponds and some have solar panels too but they don't have features that Jim wanted. His boat contains two 50 VDC battery banks, and he is considering a 1200 Kw pack. It conforms to ABYC and USCG rules and regulations. There is an estimated range improvement of 47 % by using solar energy during the trip. The 48 VDC motor is from Denmark and operates around 25 RPM.

Jim then showed a video of how the boat was built upside down, and flipped using a smartly designed system of pulleys ropes and straps to prevent bottom heavy boats from lurching out of control during the flip. Many more tips and hints were shared by Jim who built specialized jigs to construct the unique parts. Many other design and boat information was shared. Truly awesome job Jim!

Open House

Tomorrow Saturday July 20th Jim is holding an open house at his shop in McHenry to show everyone the boat. John Jeide will be there with his barbershop quartet and everyone is invited.

The meeting ended at 9:20 p.m.

FVEAA Membership Application Form

Name: _____

Address: _____

City, State Zipcode: _____

Phone: _____ Phone Type: Home ___ Work ___ Cell ___

Email: _____

Please check one: New Member _____ Renewal _____

How did you hear about the FVEAA ? _____

Member Types and Annual Dues (Please circle one)	Newsletter Delivery Types (Please circle one)
-----------------------------------------------------	--------------------------------------------------

Individual	\$15	No Newsletter	\$0
Family	\$20	Electronic Only	\$0
Business	\$100	Postal Mailed	\$15
Premier Business	\$250	Postal Mailed and Electronic	\$15
Charter Business	\$500		

Total Due from Both Columns:

Please make checks payable to "FVEAA" and postal mail it with this membership application form to:

FVEAA

PO Box 214

Wheaton, IL 60187-0214

Attn: Membership

FVEAA Business Members

Netgain Motors, Inc.



Exclusive worldwide distributor of WarP™, ImPulse™, and TransWarP™ electric motors for use in electric vehicles and electric vehicle conversions.

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