



April 2015 FVEAA Newsletter

Fox Valley Electric Auto Association

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

Next Meeting

Friday April 17, 2015

Community Christian Church

1635 Emerson Lane

Naperville, IL 60544

[Google Map](#)

Agenda

- 6:30 p.m. Doors Open
- 7:00 Call to Order, Welcome and Introductions
- 7:25 Presentation: Klara Nahrstedt -Trustworthy Cyber-Physical Infrastructure for Electrical Vehicles
- 8:30 Break
- 9:00 Committee Reports.
- 9:05 Old Business / New Business - Dues Discussion and Motion
- 9:15 Close

President's Words

Bruce Jones

Hi Everyone,

This month we have a very special guest speaker Klara Nahrstedt from University of Illinois at Urbana-Champaign. (And thanks to Maureen Stillman - who listened to Klara's presentation a couple months ago and suggested we book her!) Klara's topic is "**Trustworthy Cyber-Physical Infrastructure for Electrical Vehicles**"

which is about electric vehicles, electric roadways, utilities security and the infrastructure of the future.

Abstract:

Electric vehicles and plug-in hybrid vehicles have attracted major attention worldwide due to their capabilities to reduce petroleum usage, decrease air pollution and improve energy and environment sustainability. To enable ubiquity of electric vehicles (EVs) ranging from cars, busses, trucks to trains, multiple industrial sectors are coming together, including automotive, transportation, power grid, and the information communication and technology (ICT) industries. These industries are predicting and anticipating major advances in energy storage, wireless charging, and autonomous driving by 2050 which will have tremendous impact on the next generation cyber-physical systems, to acquire, manage, coordinate, direct and secure all the digital information around resources involved in electro-mobility. In this talk, Klara will present the impact of the expected EV advances on the cyber-physical systems to enable trusted relationships between EVs, roads, and power grid utility companies. She will discuss challenges and solutions for (a) effective placement of EV charging devices, and (b) real-time authentication framework between EVs, roads and power grid utilities to ensure EVs' high acceptability, and avoid cyber-attacks.

Short Bio:

Klara Nahrstedt is the Ralph and Catherine Fisher Professor in the Computer Science Department, and Director of the Coordinated Science Laboratory in the College of Engineering at the University of Illinois at Urbana-Champaign. Her research interests are directed toward trustworthy power grids, 3D tele-immersive systems, mobile systems, Quality of Service (QoS) and resource management, Quality of Experience in multimedia systems, and real-time security in mission-critical systems.

She is the co-author of widely used multimedia books 'Multimedia: Computing, Communications and Applications' published by Prentice Hall, and 'Multimedia Systems' published by Springer Verlag. She is the recipient of the IEEE Communication Society Leonard Abraham Award for Research Achievements, University Scholar, Humboldt Award, IEEE Computer Society Technical Achievement Award, and the former chair of the ACM Special Interest Group in Multimedia. She was the general chair of ACM Multimedia 2006, general chair of ACM NOSSDAV 2007 and the general chair of IEEE Percom 2009.

Klara Nahrstedt received her Diploma in Mathematics from Humboldt University, Berlin, Germany in numerical analysis in 1985. In 1995 she received her PhD from the University of Pennsylvania in the Department of Computer and Information Science. She is ACM Fellow, IEEE Fellow, and Member of the Leopoldina German National Academy of Sciences.

FOLLOWING MONTH'S SPEAKERS – May 15 - Steve Trkla, Torqeedo Electric Propulsion – for Boats and Watercraft and possibly May or June we'll have Bob Baker – 3rd in a series of 3 on How to Build an Electric Car

MEMBERSHIP

if you are interested in "club promotions" such as putting ads in newspapers, getting the word out in social media, making phone calls to previous members, inviting other groups to meetings or sending a newsletter to someone new, let me know. Let's pump membership back up!

See you Friday!

Sincerely,

Bruce

FVEAA is on Facebook - Like Us!

Grant Gerke

<https://www.facebook.com/FoxValleyElectricAutoAssociation>

This Month's Presentations

- Klara Nahrstedt presents an amazing future look at electric vehicle highway, transportation systems, utilities, security and infrastructure to support them - in 40 years.

Membership Update

Ted Lowe

We currently have **86** paid-up members, up 1 from last month! We live in a large metro area with 8 million people and EVs are the latest buzz so we should be able to grow the FVEAA! **Please invite your friends, neighbors, family, colleagues**, etc. to FVEAA meetings and Events. Volunteer to attend Events on behalf of the FVEAA (with or without an EV)! Your ideas on how to help grow the FVEAA are welcomed at anytime, thanks! Howard Hansen had a **great idea**... giving an FVEAA membership as a gift!



FVEAA Membership Report

as of 2015-04-13 04:58:11

Count of Members by Type

Membership Type	Count	Paid Up
BusinessCharter	1	1
BusinessPremier	1	1
BusinessStd	3	3
Family	10	10
Individual	71	69
LifetimeInd	2	2
Totals	88	86

Other Statistics

Statistic	Value
% Paid Up	97.7%
Avg. Paid Up Days	216.4 days
% With Email	95.5%

Photos



The iconic FVEAA sign



Mike Willuweit's 1985 944 Porsche that he converted from lead acid to Lithium batteries



Nice profile of the Porsche



Rich Hirschberg checks out Mike's Porsche



Ted Lowe provides an update on the Dodge Dakota and open source BMS and EVSE



One of the production custom circuit boards



Checking out the circuit board from Ted Lowe



Patrick's Nissan Leaf - charged up for the ride home at the CCC Clipper Creek charging station

Meeting Minutes

Jeff Miller

The meeting was opened at 7:00 p.m.

President Bruce Jones asked attendees and newcomers to introduce themselves.

Rich Hirschberg attends parades and does watch newsletter for outreach items

No Elgin car show this year

Having an Earth Day car show was discussed and Drive electric week will be in September the charging station at CCC.

One owner had two Volts and took a \$500 a month gas bill down to \$125. Another owner drove from Chicago to here in a Leaf and has charged about 12 different places over the last month.

Jim Schmidt mentioned the Advanced Automotive Battery Conference multinational organization.

Jim attended their conference in 2008. The next conference is June 15th through the 19th in Detroit.

They even had live translations for the presentations and a professional presentation.

One lecture was on large format lithium design. Registration was a couple of thousand but he feels like it was worth it. We need to check to see if we can get in for free or a discount. Jim wants to work with WGN to get another piece on the air about us.

A suggestion was made we might possibly want to offer a Life membership like a \$1000 dollars or something like that.

Motion to Reduce Yearly Dues

Rich Carroll made a motion in the last newsletter to lower the dues to \$10 from \$20 to help encourage membership. The topic was discussed at length with the attendees. Most people in attendance agreed that \$20 was fair and if it was cheaper it might diminish what we are worth. Three people dissent. If our members joined the National EAA our chapter receives a small credit. (EAA not to be confused with Experimental Aviation Association.) One way we could proceed would be to have everyone join the EAA and then gather the funds the EAA shares with the local club. Next month we need a second and then vote. Bob Baker made a presentation - the 2nd in a series of 3 on How to Convert Cars to Electric.

High voltage is dangerous and it is worth asking questions if you are at all unsure. It is probably worth buying the Build Your Own Electric Car Book if you are just getting started.

After the break, Ted Lowe gave a presentation on The Dodge Dakota Lithium Conversion, Open Source Battery Management and Open Source EVSE

Meeting was adjourned at 9:30 p.m.

Rich's Ramblings

Rich Carroll

Two interesting articles on EV's crossed my desk this month, and I thought I would report on both to you. Recently at Argonne National Labs, a "Festival" was held to test the interoperability of various SAE J1772 chargers and their DC Fast Charging for the CCS standard. The original J1772 standard has been expanded to the J1772 Combo, better known as Combined Charging System (CCS.) This CCS has both AC charging and DC Fast Charging on one plug. This Argonne event drew more than 30 manufacturers of EVSE and a large number of automotive OEMs. In fact the manufacturers represented eight different countries. The aim was to test the complete interoperability of many manufacturers. Every production vehicle that has a CCS inlet on it was represented.

Argonne initially expressed some concern that there might be examples of an incompatibility between a company that followed the ISO or DIN specification, and a different company that followed the SAE specification. And while there was not a perfect 100% interoperability, each pairing tested did charge the vehicle, or if there was not a vehicle present, did go through the entire communication process.

Some prototype vehicles showed intermittent problems in initializing, but the manufacturers noted that they

came to the Festival because they had no other way to test.

In addition, some areas where the new standards were not clearly spelled out appeared. As an example, the spec says that before any high voltage appears at the connector, the vehicle must lock the connector into it's inlet. Some vehicles could not lock the connector in immediately, waiting for a credit card authorization. Some vehicles locked the connector, but if the credit card was unable to be authorized, it retained the locked connector, and kept trying to authorize the transaction. Manufacturers were eager to record these minor problems, and start toward a solution. Fortunately, in the Argonne spirit, several manufacturers were able to help direct competitors to solve their problems, even if this cooperation was not encouraged or incentivized. The end result was a fairly complete interoperability between all the current EVSE makers and the current crop of EV's on the market.

The second article is almost as important, and is a pair of articles on the performance of EVs in weather extremes. Both articles come from FleetCarma.com, a corporation that provides engineering expertise to OEM vehicle designers and to fleet managers. The hot weather data isn't as interesting as their cold weather data, perhaps due to FleetCarma's regional bias, as they are located in Waterloo, Ontario. Waterloo is about 70 miles west of Toronto. They found a lot of variability between drivers in the winter, and some variability in summer also. Summer use of an air-conditioner did not impact range as much as winter use of cabin heat, in their tests in Volts, Transit Connects and i-MiEVs. I would urge you to register for their web site, which will allow you to see their cold weather slide presentation at: <http://www.slideshare.net/fleetcarma/the-truth-about-electric-vehicles-in-cold-weather>? or to download their hot weather presentation at: <http://www.fleetcarma.com/resources/the-truth-about-electric-vehicles-in-hot-weather-webinar/>. If you have trouble downloading this, let me know, I can send you my copy. If you want to read the interesting article that goes "deep into the data" go to http://issuu.com/chargedevs/docs/iss_17/1?e=3746341/11908325 and start on page 56.

Opportunity for EV Owners - Act soon if you are interested - Offer ends this Friday 4/17/2015

Bruce Jones

Hi EVeryone

This week I received a call from Patrick Murray from Focus Ready, a research group based out of Chicago. They will pay an honorarium of \$175 to you if you own an EV and if you allow one of their researchers to come to your house and interview you on the subject of electric vehicles. Interview would be about 1.5 hours of your time and it is being paid for by an "automotive" company.

I'm thinking if some of our members want to get paid for providing opinions on EVs this "Focus Ready" group has come to the right place. It would easily pay for your annual dues and then some. Hey, it could even help cover someone else's subscription too! (Hint hint!) Or it would cover a Business Membership.

I checked the Better Business web site

<http://www.bbb.org/chicago/business-reviews/market-research-and-analysis/focus-ready-in-chicago-il-88263957> and even though Focus Ready is not accredited with the BBB they had "0 complaints closed with BBB in last 3 years."

This offer ends this Friday 4/17/2015 so if you would like, call Patrick to make an appointment
Thanks - Bruce

Membership Form

Ted Lowe

FVEAA Membership Application Form - Version 2014-01-01

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 ? _____

Membership Types and Annual Dues (please circle one):

Individual	\$20
Business	\$100
Premier Business	\$250
Charter Business	\$500

Newsletter Delivery Type (please circle one): No Newsletter Electronic

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



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Bill Jacobs

Bill Jacobs BMW

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