



## May 2017 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

**May 19, 2017 7:00 p.m. to 9:30 p.m.**

#### Community Christian Church

1635 Emerson Lane  
Naperville, IL 60540

[Google Map](#)

#### Agenda

- 6:30 Doors open -> Sign-in Sheet
- 7:00 Call To Order, Welcome Introduction
- 7:15 Michael Willuweit - World of EVs: What's trending in 2017 and a look beyond
- 8:00 Break
- 8:15 Club news and business.
- 8:25 Marty Belowicz: Systems integration for conversion EVs
- 8:45 Jeffrey Miller: Update on home charging infrastructure, 400 Amp service installed
- 9:15 Close

#### President's Words

*Michael Willuweit*

I guess selling a car is always bittersweet and I felt mixed emotions when I saw my little i-MiEV drive off last weekend with a new owner behind the wheel. It was a great car for the 21 months I had it, and considering the deal I got when I bought it, its cost of ownership was next to nothing. But any feelings of longing I had for the "Black Bean" have been replaced by the EV grin I get with my recently acquired 2014 Rav4 EV. The Tesla/Toyota SUV is a real treat to drive and I look forward to bringing it to this month's meeting. Perhaps I'll bring the Porsche 944 to the June meeting.

Speaking of the June meeting, please mark June 16th on your calendar as it will be a special FVEAA meeting. We will have Hunter Hamstra speaking with a big announcement about a new motor from Netgain Motors. I'm not allowed to divulge any more info than that, and that's pretty much what I know anyway, but it should be interesting to see where the Netgain is headed.

Bruce Jones has done another terrific job of filling this newsletter with recent pictures of club meeting and events and as always Rich Carroll has an excellent article about technology and a recent hack attack that many people fell victim to.

Hope to see you this Friday!



Fred's Smart For2



Plug-in hybrid Hupmobile hot rod and beautiful black Tesla Model S



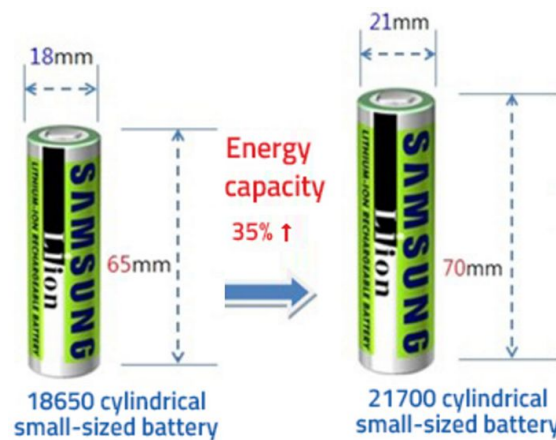
Donna McCall and Ted checkin out the Plug-in hybrid hot rod Hupmobile



Nick and his new BMW i-3



A Smart 4x2 and a not-so-smart 2x4



New Tesla Battery - (thx to Steve Ledger for sharing)



Jeff Miller explains how rigid foam can be made strong and used for battery boxes in our home built EVs



A strip of foam wrapped in brown paper or tape is pretty strong!



And even stronger with several pieces of tape



The Kevlar wrapped foam insulation easily holds Maureen

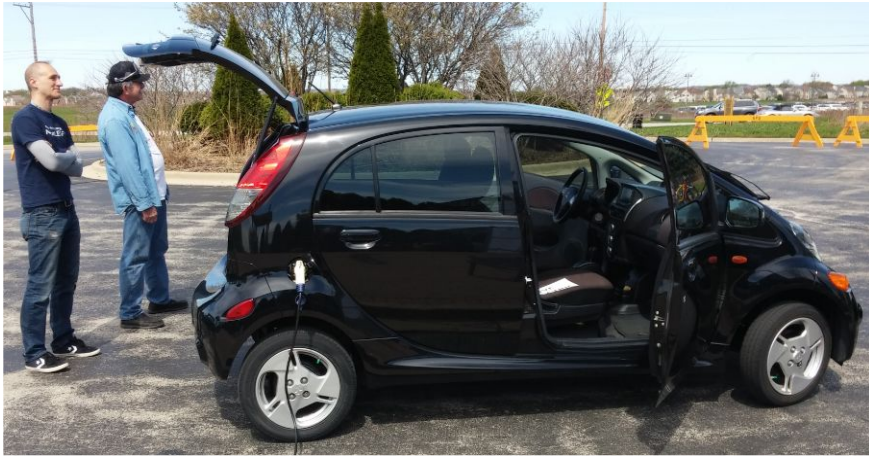


Then Jeff and Mike....



The Kevlar wrapped foam holds 700 pounds! Rich, Jeff and Mike

## EARTH DAY 4/22/2017 AT PECK FARM PARK IN GENEVA



Mike Willuweit describes the virtues of his iMiev at the EARTH DAY celebration (Note: This was the last official FVEAA event for Mike's iMiev as he recently replaced it and now will be driving a Toyota Rav4 EV!)



**FVEAA Facebook Page - Like Us!**

Grant Gerke

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

**FVEAA Facebook Group - Join Us!**

Ted Lowe

In October 2015, i created a Facebook group for the FVEAA and invited all the past and current FVEAA members i know that are on Facebook. There are 47 members so far. If you're on Facebook but not in the group, yet please join us! If you're not on Facebook yet, please consider joining so you can join our group there! This group will help to replace our forums because it is much easier to use, read, post pictures and videos and get notifications. Please let me know if you have any questions/comments/suggestions. Hope to see you there! <https://www.facebook.com/groups/889497691136309/>

**Rich's Ramblings**

Rich Carroll

This week saw the most frightening internet attack ever, and which was stopped only by blind luck and a \$10.69 purchase by a smart individual. How can this be? Join me for a strange tale.

For years, small internet devices have been shipped with systems that have serious computer code flaws. If a malicious person, or group, use the flaw to their advantage, they can convert the little internet device to their own purposes. Most of the industry insiders worry about these little devices, commonly called IoT, or the internet of things. There are hundreds of millions of security cameras, all wirelessly transmitting their pictures to anyone who can listen. Traffic control signals, remote industrial monitoring devices, and, yes, the new refrigerators are part of the IoT. They gather their information (perhaps whether a police car with flashing lights approaches, or scanning the bar code on the milk jug you just emptied, to order another) and transmit it. In a perfect world, they are secure, but this is far from a perfect world. Many of these IoT devices have an outdated operating system, and no one is applying security patches. It is reasonably easy to obtain the lines of code

needed to change some IoT device into a remote 'bot' or robot. These bots can then, in addition to their normal signals send many other signals to 'jam the switchboards of data centers.'"

This went one step farther yesterday. The author(s) of WannaCry spread their malicious code via the bot net, and when they found an older computer without current security patches, captured the data and encrypted the files so the user suddenly had no data. For a mere \$300 (paid in BitCoin, an untraceable internet currency) users could pay the 'ransom' and get their data back. But once a ransom is paid, what do you think the WannaCry makers think of you? They think of you as a prime 'target.' At last count, they stopped surgeries at many hospitals, mostly in Britain, and stopped completely the Renault production lines in France, In addition to England's National Health Service, Deutsche Bank in Germany, FedEx in the US, and targets in 99 other countries were stopped. Stopped completely.

But a single security researcher found a way to stop this cyber-attack as it was just starting, although his solution is only for this time, this code, and won't work tomorrow or next week. The authors of the malicious computer code wrote a 'kill-switch' into the code, which would stop the code from working in some situations. The reason they included the kill switch, was to detect if the code was running on a regular IoT computer, or in a sandboxed environment on a more sophisticated system. Larger, more secure systems, run programs in a separate memory area, and don't let the program affect direct connections. Effectively, they allow the new programs, good and bad, to play in a 'sandbox' where the damage is well controlled. How can a bot tell it it is working in an IoT device or in a sandbox? Most of them can't tell easily. So the malicious cyber-criminals wrote a section of code to check to see if a specific internet place existed. They picked a completely unlikely domain name, one comprised of numbers and letters, like <http://8q1zKklxoex7GU.com>. The code checks to see if there is a web server at <http://8q1zKklxoex7GU.com>, and if not, continues. If there looks like there is a valid web server at that address, then the malicious code knows the report is false, and they are really in a sandbox. If they are in a sandbox, the code stops running, since it can't hurt anything. It also doesn't want to tell the operators that it exists, but it was contained. It just stops running. This is a kind of a 'kill switch;' check to see if the bogus domain exists, if it sees the domain, the bot stops as it will be ineffective. If it doesn't see the bogus domain, it knows the IoT is in the real world, and can be used to infect others.

Once the security researcher looked at the code, he saw the checking for an illogical domain name. For \$10.69, he registered the domain name and several similar domain names. He then posted a trapping website, called a sinkhole, which harmlessly takes in these requests, serves a simple web page, and triggers the kill switch. This worked great, today. Tomorrow, do you think the malicious coders will leave a simple kill switch in their code? Do you think they would use the same domain name again tomorrow? Not a chance. Have we solved this problem for good with a \$10.69 investment? Not a chance. Will the computers run amok and take over the world? Now, that's a strong possibility.

## Membership Update

Ted Lowe

We currently have **62 active paid-up** members, **down 1** from last month! Please renew and recruit new folks!



## FVEAA Membership Report

as of 2017-05-15 04:58:07

### Count of Members by Type

Membership Type	Count	Paid Up
BusinessStd	1	1
Family	6	6
Individual	53	52
LifetimeInd	3	3
Totals	63	62

### Other Statistics

Statistic	Value
% Paid Up	98.4%
Avg. Paid Up Days	181.6 days
% With Email	93.7%

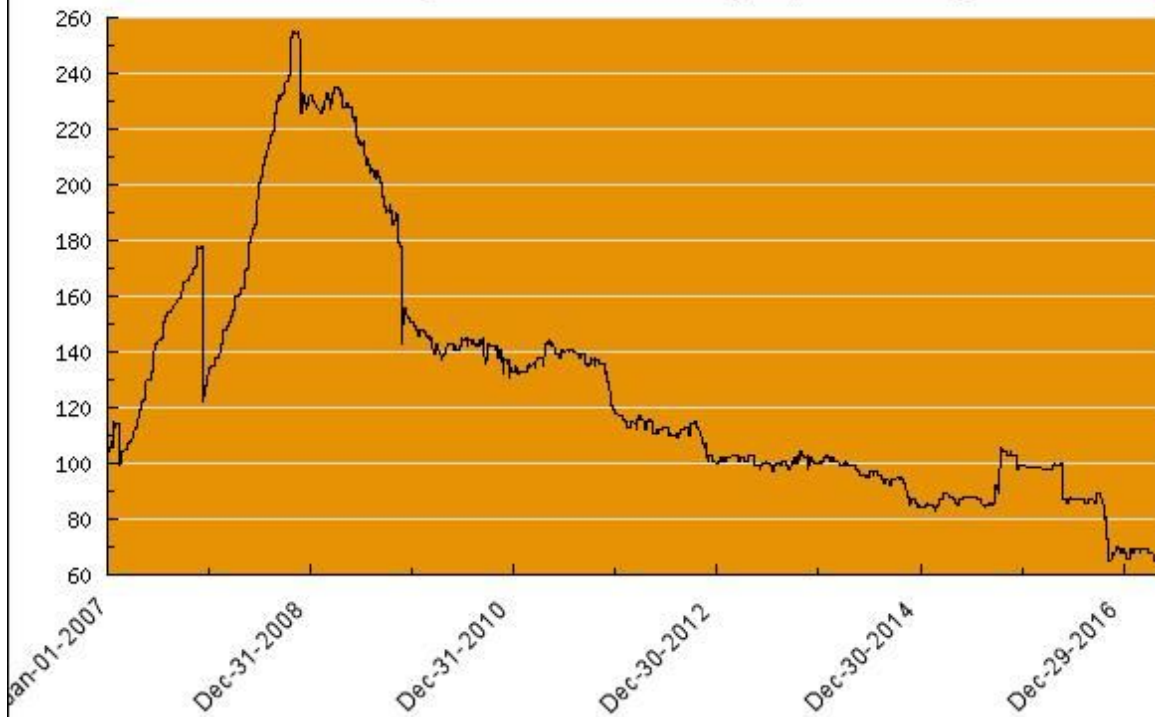
### Encouraging Our Membership To Grow in 2017 and Some History

Ted Lowe

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!

Here is a time-varying graph of our membership size from 2007 to now. Note that we peaked at about 255 members in the Summer of 2008 when gas was nearing \$5 per gallon. We were also attending lots more invitational EVents with our EVs. **Let's get out there and grow the FVEAA in 2017!!!**

FVEAA Paid Up Members as of May 15, 2017 2:41pm



### Membership Renewals

Ted Lowe

Our membership system sends out “renewal reminder emails” before your membership is due. You will receive up to 3 before being marked “not renewed” (inactive). The sooner you renew, the fewer emails you will receive :)

So please pay attention to your email from the FVEAA and renew online using this link (for the easiest approach for all of us):

<http://www.fveaa.org/renew>

**THANK YOU for your continued support of the FVEAA!**

**Meeting Minutes - April 21, 2017**

*Bruce Jones*

The meeting opened at 7:05

- President Mike Willuweit opened the meeting and talked about the latest electric vehicles.
- Then everyone who came Introduced themselves.
- Bruce presented a slide from Steve Ledger comparing the old Samsung 18650 battery versus the new 21700 which is the new Tesla battery design that provides almost twice the power for about the same cost
- Ted Lowe said he'll have the Dodge Dakota finished by NDEW in September
- We learned there are about 150 moving parts in a Tesla versus 10,000 moving parts in the average ICE car

Rich Hirschberg described the upcoming outreach events

- Geneva Earth Day Celebration tomorrow Saturday, April 22 Times: 11 am to 3 pm Location: Peck Farm Park 4038 Kaneville Rd., Geneva
- Aurora GreenFest Date: Saturday, June 10 Times: 10 am to 4 pm Location: 150 W. Illinois Ave., 60506
- IREA Sustainability Fair (IL Renewable Energy Assoc.) Date: web site not current Location: Oregon, IL 61061
- National Drive Electric Week Dates: Sept. 9 to 17 Locations: Naperville & northern location Time TBD

8:00 Break

8:15 To show the strength of Kevlar wrapped rigid foam insulation for battery boxes, Jeffrey Miller provided a demonstration of composite materials. Including a demonstration of destruction of composites, breaking points using various wrappings, coatings over rigid insulation.

**Meeting Adjourned at 9:30 p.m.**

**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





**ELEVATE ENERGY**  
Smarter energy use for all

**Elevate Energy**

Mary Jo Warskow

300 S Green St, Suite 300

Chicago, IL 60607

Phone: 773-922-3018

Web: [hourlypricing.comed.com](http://hourlypricing.comed.com)

**CHARGE YOUR  
VEHICLE FOR LESS**  
WITH HOURLY ELECTRICITY PRICING

It is great having near zero, or sometimes even negative, rates to fill up my car for nearly free or even better!

—Daniel H., Hourly Pricing participant since 2015

**ENROLL NOW**

**ComEd** powering lives  
COMED.COM



**NetGain  
Motors, Inc.**

---

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

---

WWW.GO-EV.COM

800 S State St. Suite 4

Lockport, IL 60441

630.243.9100



**Best Hybrid Batteries**  
**Only The Best**

Michael Bradley

18600 IL-59

Shorewood, IL 60404

Phone: 708-669-9402

Email: [besthybridbatteries@gmail.com](mailto:besthybridbatteries@gmail.com)

Web: [www.besthybridbatteries.com](http://www.besthybridbatteries.com)



