

EEVC NEWSLETTER

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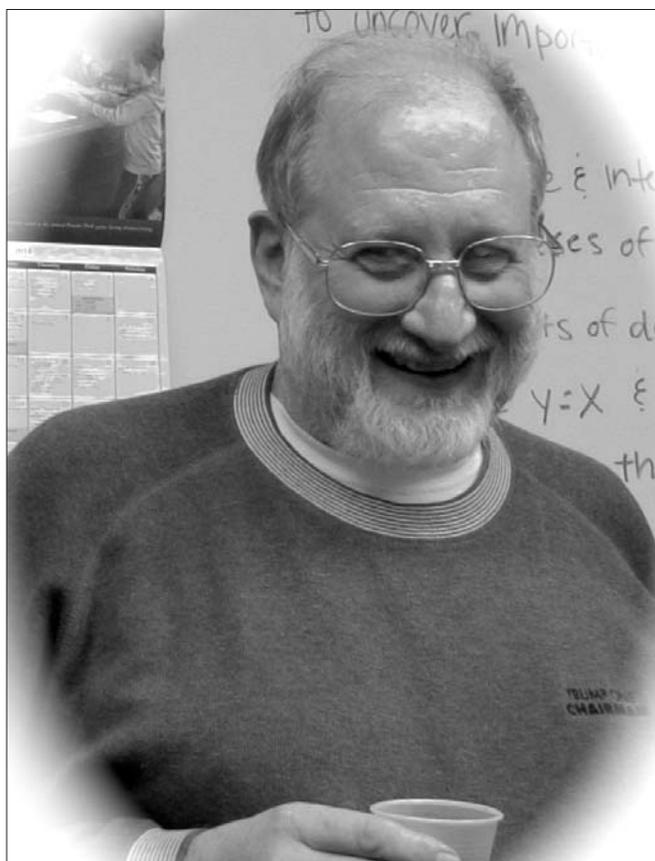


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JIM NATALE - 2014 EEVC MEMBER OF THE YEAR Oliver Perry

Every year the Eastern Electric Vehicle Club seeks to recognize a special member who we feel has made outstanding contributions to our organization. Usually these contributions have occurred over a period of more than just one year. We had several members, all of whom were excellent candidates for the 2014 Member of the Year award. Our final choice for the year 2014 is James (Jim) Natale.

Jim has demonstrated consistent commitment to the ideals and objectives of the EEVC. His dedicated and unselfish efforts have benefited our organization and expanded our outreach. Annually the EEVC participates in several events that interact with organizations in the Delaware Valley. Responsible



Jim Natale, 2014 EEVC Member of the Year

members such as Jim, who are willing to serve, are needed in order for the EEVC to participate in these events.

Recently Jim volunteered to re-establish our web page and keep it updated. He assumed the position of site director earlier this year in order to provide much-needed relief for former member Ron Groening's daughter. Lindy has managed our site since its inception many years ago.

Those who participate on the EEVC Chat Line are fully aware of Jim's many postings. He forwards many corporate financial updates, breaking automotive news, information on

petroleum and electric car companies, and the latest developments in the Tesla electric car world.



Jim Natale displays at the 2014 21st CAC at Penn State.

Jim has been very active in our organization for a number of years. This past year he has attended most EEVC meetings. He was a participant in this past year's 21st CAC at Penn State, as well as a participant in one of our earlier 21st CAC competitions at BCIT, New Jersey. In addition to keeping up our web site, Jim is assisting us in making plans for the 2015 21st CAC.

When reviewing character, commitment, performance, and overall contributions this past year, no club member is more worthy of our 2014 EEVC Member of the Year award than Jim Natale.

How It All Began

Jim Natale, a former physics student of mine in the late 70s, first became involved in the EEVC in 2007. In Jim's words,

"In 2007 I must have seen a post in Priuschat or a notice in the Burlington County Times about a Tour to the Shore and car show at BCIT. The contact drew my attention. Oliver Perry. Could this be the Oliver Perry that taught high school physics in Cinnaminson? I remember asking that question in the email I sent to register for the event. Thirty-six years later I noticed that he had not changed a bit. I said to myself, that must be Mr. Perry with the lens cap on taking photos of the assembled cars."

"In 2007 EV conversions were popular and Daniel in the chatroom was having a Porsche



Jim Natale waiting for his turn to run the Autocross at the 2014 21st CAC at Penn State

converted. (The Porsche ended up being a disaster and he later bought an orange Tesla Roadster). I had a few questions and it was probably Ken Barbour that answered them.

"When Tesla unveiled the Model S the car was so beautiful that I put down the reservation. I realized that I needed to find people with EV experience so there would be someone who I could ask for help and advice. Although it was freely given, I felt that just asking for advice was like sponging. If I became a member they would be more likely to help me. So I joined.

"Even if I could not build an EV, I didn't own an EV, and I was not able to make all of the meetings I asked myself if I should still join the EEVC? My answer was yes, because I knew that I could contribute in other ways. A number of years ago I think I made a contribution when I asked about electronic delivery of the newsletter. Maybe my question helped future gears to begin turning."

Chat Line Contributions

As previously mentioned, Jim contributes a great deal of information on the Chat Line for EEVC member use. In Jim's own words.

"The chat line was a good idea. I believe it helps make people feel a part of the club. It provides a way for them to participate. In the chat room there are three types of members: Greenie, Techie, and Cheapie. Pick two. The EEVC seems to lean toward Greenie and



Jim Natale receiving an EEVC Outstanding Performance Award at the 2014 21st CAC at Penn State

Techie. Proponents of particular viewpoints seem to toss around simplistic arguments or solutions. I'm glad for the opportunity to provide information & commentary so that better informed positions can be taken.”

Enthusiastic Prius Owner

From the moment Toyota introduced the Prius hybrid the EEVC has endorsed it as a vehicle compatible with the goals of our organization. For a number of years Jim has competed in the 21st CAC with his Prius. He knows a great deal about the car and takes pleasure in driving it to win. He is actively involved in our competitive event and is currently involved with us in making improvements in the Penn State event.

Jim Natale - Student to Professional

I first met Jim as a student in my honors physics program in Cinnaminson High School back around 1976. He was a conscientious student who earned good grades. He succeeded in making our competitive New Jersey “State Science Day” 1977 testing team. Every spring I competitively selected four or five of our best physics students to compete in the physics section of the state-wide test. Jim made the team and placed 56th out of 449 students who took the test. Our team, made up of three other members in addition to Jim, placed 4th out of 98 complete teams in the state of New Jersey.

September 1977 Jim entered Stevens Institute of Technology in Hoboken, N.J. as a



freshman. He wasn't happy. The school was expensive so in May of 1978 Jim transferred to Trenton State where he became an accounting major.

In 1978 began Jim working weekends as a part time cashier in the Delran, N.J. K-Mart. January 1st 1980 Jim got a temp job placement with McGraw-Hill through Trenton State College's (TSC's) co-op program. Since Jim couldn't handle the full load of credits and both jobs he quit K-Mart early in 1980. Meanwhile at McGraw Hill Jim began working in Depository Accounting, scheduling his work around classes. In 1981, before graduation, two jobs within the company opened up, one in Cost Accounting, and the other in Royalty. He got hired in Royalty and began working full time while carrying 15 credits during his last semester.

Jim remained in the Royalty division for about ten years. At that time McGraw-Hill functioned as three companies: Book, Publishing and Information Services (ISCO). Each had their own accounting systems and infrastructure. Royalty was relatively unaffected by consolidations that began to occur. It only had to deal with the book company. Accounts Payable was a disaster with three separate Accounts Payable departments so each with their own general ledger and policies had to be merged into one.

With vision and support from a key leader Jim's department was modernized. Tons of paper was thrown out. At a time when most departments shared computers every employee in Jim's department had their own high-end computers. In those days Jim said, “If you needed something Santa Claus delivered.” When they couldn't get computers through their purchasing department Jim went to CompUSA and bought them off the shelf. Once, in need of an update, Jim's department ordered a Pentium 60 for “evaluation.” They didn't return it. It was the most powerful computer in use on the floor.

Many changes happened over the years. Many people came and went. Jim's title

changed a number of times as did his responsibilities and reporting hierarchy.

The name of his company changed a number of times, along with the logo. The McGraw-Hill Companies, Inc. McGraw Hill Financial, Inc. (Jim's quip was they downsized and removed the hyphen to cut ink expense.

Jim's job with McGraw Hill lasted from January 2, 1980 to March 1, 2014. Jim has now been unemployed almost 11 months. But with an accountant's background, experience with computers, and work at McGraw Hill, Jim has become very knowledgeable of the corporate and investment world. He has gained an understanding of how the forces that drive our economic marketplace work. His insight is frequently shared with EEVC members in a unique witty manner. True, Jim is not a mechanic or an electronic engineer or a "hands on" car guy. But, he has a lot to contribute to the understanding of the overall dynamics that govern the automotive industry. He is a great person to brainstorm with when it comes to making financial investments.

Jim is also a stamp collector and has been going to shows since 1983. A dealer that Jim frequented eventually recruited him to help staff the booth at shows as the "local" help. Over the years the "local" area expanded and the schedule increased. It soon became a part time job for Jim, made possible by all the vacation time he had accrued. Over the last year or so Jim created a website and has been selling stamp related things under the trade name on bidstart.com.

According to Jim, the minor efforts he has put into finding another job haven't been successful. "Am I still looking? Yes, but not very hard. Therefore if I'm not working then my money has to."

"Now that I don't have a day job I can spend time researching, reading, and observing. Watching the stock market can be a hobby or a job.

"When I began investing years ago I got pulled in to a number of bad investments. They became the foundation of my distrust of brokers and advisors. But since mutual funds all seem to under perform, I feel I need to find a better way to independently participate in the stock market. Times change and so has the industry. Discount brokers and internet

access have revolutionized investing."

"Presently I'm sitting on the sidelines waiting for the bear market that has to come. I'm waiting for interest rates to rise. But they are not rising. I'm sitting out a bull market and not making any money. I don't have the stomach for day trading, but there's nothing wrong with setting an upper limit and leaving with a profit. You also have to be comfortable with what you buy. If you are an animal rights activist you probably don't want to own the slaughterhouse.

"Have I thought about opening an electric car dealership? No. I'm not an entrepreneur and I don't see much of a market for electric cars. When 16.5 million cars are sold 165,000 is only 1%. Tesla is estimated to sell 18,750. Nissan sold 30,200. Combined they are just under 0.3% of the entire market. Besides, the market is locked out. Although dealers may not want to sell EVs they aren't going to let anybody who tries to sell them get into what they consider to be their business."

Congratulations James Natale

Congratulations to James Natale for being our 2014 EEVC Member of the Year. Individuals like Jim help keep the doors of the EEVC open to members, as well as the public. We meet the second Wednesday of the ten school months of the year at Plymouth Whitmarsh High School in room 49.

PENNSYLVANIA TO FLORIDA AND BACK IN A TESLA FOR \$3.00 Don Young



Don charges his Tesla in Richmond

We received a call in December of 2012 from Tesla telling us that our Model S, which we ordered in July of 2011, would be ready for



Don charges in St. Augustine, FL

delivery to our Pennsylvania home by the end of the month. I indicated that we would be leaving for Florida right after Christmas for the winter and I wasn't so sure I wanted my new Tesla sitting in my garage until we got back. Their response: "no problem" we'll deliver to your house in Florida. It arrived at our front door in Florida on January 15, 2013.

We enjoyed the car in the warmth of Florida until Easter when we planned to go home and the issue arose of how we get the Tesla back to Pennsylvania. In April of 2013 there were no easy alternatives. Finding public charging stations and campgrounds all along the East Coast would be very time consuming. Fortunately we had our motorhome in Florida, so we chose to rent a car carrier and tow the Tesla back to Pennsylvania. Towing the Tesla behind the motorhome was fun, as all along the way we would get "thumbs up" signs as cars pulled along side to check it out, but with the cost of diesel fuel it was obviously a fairly expensive way to get the car back home for the summer.

By the time we were ready to take the Tesla back down to Florida for the winter of 2013/2014, Tesla had installed several supercharger stations along Interstate 95, so we thought let's try to drive down using the supercharger stations and although we are in our early 60s, we thought it would be fun to drive straight through taking rests along the way as we charge.

It was mid-day until we were organized and ready to leave Macungie for our trip to Englewood. With a full charge we were able to stop by the Tesla service center in Norristown Pa. for a quick extra key reprogramming and make our way to the supercharger in Bethesda near DC where we walked around the mall

and got something to eat while we charged for a little more than an hour.

We got to Richmond, Virginia on our next leg and again charged for approximately an hour, realizing that it is taking a while to get a full charge and we were arriving at the next supercharger station with plenty of charge remaining. When we hit Rocky Mount, North Carolina we charged for only 20 minutes which gave us enough rated charge to get to Lumberton, North Carolina where we charged for only about 30 minutes, now realizing that we can rely on the rated range and get to Santee, South Carolina with just enough range to again charge for a half an hour and then on to Savannah, Georgia.

As we drove through the night we found that the GPS distance to our next supercharger and our rated range worked out to be fairly accurate even driving at speeds of 70 plus miles an hour. The GPS guidance to our Tesla supercharger locations was generally good and in the daylight as it got us to a mall, hotel complex or service center where we could look around and find the Tesla superchargers. However, when we arrived late at night it was sometimes hard to locate the charging units as we drove around a closed mall or hotel complex.

By the time we arrived in Savannah, Georgia, dawn was just cracking and we were exhausted. The charging station was not far off of Interstate 95 but was in the Savannah Airport parking deck. We drove through the toll booth, found and connected to the charging unit, and dozed off in the car for a short rest. When we woke up and exited the parking area we had been there for well over an hour and were told we owed \$2 for parking. We continued on to St. Augustine, Florida where we arrived at a mall supercharger location in time for lunch. It's a little too far from St. Augustine to get to our house below Tampa even with a full charge. Since we had friends staying at Disney Fort Wilderness Campground, we stopped in to see them and charged the car at their campsite. Not a supercharger but we were able to enjoy the Disney ambiance for several hours while we got the necessary free juice to make it to our house.

Although the use of the supercharger stations (and Disney) were free it had cost us \$2.00 to get from Pennsylvania to our house

in Florida only because the charging station in Savannah, Georgia was in an airport parking deck.

When it came time to head home shortly after Easter we had learned several lessons: 1) the Tesla rated range is fairly accurate so you only need a charge for a little more rated miles than the GPS indicates to the next supercharger which saves time, 2) the exception to rule 1 is if you drive really fast or when going north begin to get into the hilly areas. On one occasion in North Carolina we arrived at a supercharger station with only 7 miles of rated range because we hadn't figured on the hills (but still no range anxiety). 3) Although we generally maintained 65-75 miles an hour, slowing down a little can significantly extend your range. 4) It can be hard to find a supercharger in a big mall complex in the dark. 5) It is better to take long naps when you are older. And most importantly we learned that we could cut the cost of the trip home in half by staying in the Savannah Airport parking deck for less than an hour, so it only cost \$1 on the way home!

Although it took longer to drive to and from Florida in the Tesla compared to a regular car because of the charging stops, we enjoyed the smooth drive, the occasional attention we received and you can't beat the cost!

We plan to do it again next year.

EPILOGUE

We have now completed two round trips from Pennsylvania to Florida and back in the Tesla and are refining our long distance travel in the Tesla to a continuing numbers game. To keep ourselves occupied we downloaded a ton of music and we have been trying to mathematically keep our charging time to a minimum while reasonably maximizing our driving speed. If we drive at or less than 65 mph, excluding big hills, the rated range is very accurate but as we have all experienced on interstates such as I-95 that speed will leave you in the dust. The Tesla also has an "instant" range indicator that gives you a better idea of how far you can go at your present speed. By the time you hit 75 mph you are losing significant range. We are now watching the GPS mileage to our next destination and the "instant range" mileage estimate and varying our speed so that it appears we will

get there. On two occasions in our last trip we came into the supercharger with only 4 miles of remaining rated range by either being able to go a little faster or a little slower as we closed in on the next charger. A word of caution, if you are not familiar with where you are going you must pay close attention to avoid any wrong turns or missed exits, which we did only once. Even though we are now only paying \$1.00 each way (plus an inexpensive hotel room) the shorter airline flight even with its hassles is looking better, but then we would not have our super fun Tesla with us!

STORMS? WHAT STORMS? By California Pete



California was in the news in December because of a series of damaging storms, and for a while it looked as if we might be making a dent in the drought. But that all ended with the new year, and we're still way in the hole (11 trillion gallons as of a month ago, if you count reservoirs, the Sierra snowpack and groundwater — which Central Valley farmers have been frantically pumping).

The state has cut back on water use, but if the rains don't come back we're going to turn into Arizona or New Mexico.

Licenses for everyone

Anybody who drives should have a driver's license, and that has been a problem for undocumented immigrants for some time, who have been driving illegally and risked having their cars impounded if they were stopped. So California passed a law a while back that allows them to get licenses. More than 1000 applied on the first day they were available, and 100,000 more were expected — and the licenses are issued only to those who can prove residency.

Bad and good news for the foodies

The Bay Area is known for its fine dining, and this sometimes attracts crime. On Christmas day thieves broke into the Michelin-three-star French Laundry and made off with 76 bottles of really high-end wine, mostly

Domaine de la Romanée-Conti, which can go for \$15,000 a bottle. This follows the December break-in at Michelin-one-star Plumed Horse, where the same wine was targeted.

On a brighter note for gourmands, a federal judge has declared invalid the state's ban on the sale of foie gras. There was rejoicing.

Governor lays out green plans

Governor Jerry Brown announced at his swearing in for his fourth term (the first two were 1975 to 1983) that he planned to increase the state's use of renewable energy to 50 percent over the next 15 years. He "called for the state to increase renewable electricity sources, reduce petroleum use in vehicles, double the energy efficiency of existing buildings and make heating fuels cleaner by 2030," according to the Associated Press.

He also touted the start of work on the high-speed rail line that is supposed to allow people to go from San Francisco to Los Angeles in less than three hours. The first section will be only 29 miles long and connect Fresno to Madera, a city of 61,416 in the San Joaquin Valley that is probably even less attractive than Fresno. It's a start, I guess, but nobody knows how long it will take to complete the whole thing, or how much it will cost in the end. We can be certain that the bill will be several times more than estimates.

GM SHOWS NEW VOLT — AND A POSSIBLE SUCCESSOR



At the North American Auto Show in Detroit on January 12 Chevrolet unveiled the 2016 Volt, which features extended range, (including 50 miles of EV range), greater efficiency and stronger acceleration.

The new propulsion system will offer an estimated total driving range of more than 400 miles, and with regular charging owners are expected to travel more than 1000 miles on average between gas fill-ups.

Highlights of the 2016 model include

- A new two-motor drive unit that is up to 12 percent more efficient and 100 pounds lighter (45 kg) than the first-generation drive unit and provides 19 percent stronger zero-to-30 mph acceleration
- An increase in battery capacity to 18.4 kWh using 192 cells (96 fewer than current generation) with weight reduced by more than 20 pounds
- A Regen on Demand feature controlled via a paddle on the back of the steering wheel
- A new 1.5 L range extender, designed to use regular unleaded fuel that offers a combined GM-estimated fuel efficiency of 41 mpg (EPA estimate pending)
- Location-based charging capability, with a 120 V portable cord set that has a simpler, compact design with more convenient storage location

The 2016 Volt goes on sale in the second half of 2015.

Trying to take on Tesla?



Also on display in Detroit was GM's new concept EV called the Bolt, which some take as an attempt to compete with the Tesla Model 3. The company claims a 200-mile range for the EV, and says it will cost in the neighborhood of \$30,000, which is a pretty direct shot at the Model 3.

The announcement lists a number of interesting driver convenience features, including several that work with a smart phone app. Along with keyless entry and ride-sharing, there was "the concept automatic park-and-retrieval technology, which enables the driver to exit the vehicle and tell the Bolt EV concept to park itself — and when errands are completed, the Bolt EV concept can be summoned to return to the owner's location. That implies autonomous operation, unless we misunder-

stand the concept, which makes us wonder why they mentioned it so off-handedly.

TESLA INNOVATIONS KEEP COMING

For its part Tesla has not been standing still, announcing a number of upgrades to the vehicles and to the infrastructure that supports them.

The infrastructure change comes in the form of a battery-swapping system that lets long-distance travelers get a full charge in just three minutes, by swapping battery packs.

The new battery-swap facility is located along I-5 in Coalinga, CA, across the street from the Tesla Superchargers at Harris Ranch. Roadster owners can now take advantage of the Roadster 3.0 package, which includes a new battery pack that delivers roughly 70 kWh in the same package as the original; a body retrofit kit that reduces the drag coefficient (Cd) from the original Roadster's 0.36 to 0.311; and new tires with a rolling resistance coefficient (Crr) of roughly 8.9 kg/ton, about a 20% improvement over the 11.0.

All this increases the driving range to 400 miles on a charge.

COMING EVENTS

National Biodiesel Conference & Expo

Jan 19, Forth Worth, TX. For info go to www.vacleancities.org/events/?regevent_action=register&event_id=188&name_of_event=National%20Biodiesel%20Conference%20&Expo

3rd Annual Clean, Low-Carbon Fuels Summit

Feb 3, Sacramento, CA. Go to www.calstart.org/Events/CALSTART-Events.aspx

SAE 2015 Hybrid & Electric Vehicles Technologies Symposium

February 10-12, 2015, Los Angeles. www.sae.org/events/hybridev/

SAE Clean Snowmobile Challenge

March 2-7, Houghton, MI. <http://students.sae.org/cds/snowmobile/event/>

Rally at the Raceway

March 26, Richmond International Raceway. Go to www.vacleancities.org/events/?regevent_action=register&event_id=175&name_of_event=2015%20Rally%20at%20the%20Raceway

Rush X Tesla Experience and Expo

April 3-4, 2015 - Long Beach, CA. Go to <http://rushx.org/>

SAE 2015 World Congress & Exhibition

April 21-23, Detroit. www.sae.org/congress

EVS28 — The 28th International Electric Vehicle Symposium and Exhibition

May 3-6, Goyang, Korea. Go to www.evs28.org/

The WAVE – World Advanced Vehicle Expedition electric vehicle rally

June 13-21, from eastern Germany into the Alps. Go to <http://www.wavetrophy.com/en/>

EV Fest 2015

June 14, Flamborough (Hamilton), Ontario.

Go to www.evfest.ca

2015 World Solar Challenge

October 6-13, Australia. Go to www.worldsolarchallenge.org

The 3rd Annual China Electric Vehicle Infrastructure Summit 2015

March 26-27, Shanghai, PRC. For information go to www.eco-business.com/events/the-3rd-annual-china-electric-vehicle-infrastructure-summit-2015/

2015 Electric & Hybrid Vehicle Technology Expo

Sept 15-17, Novi, MI. Go to www.evtechexpo.com/

The Battery Show (colocated with the event above).

Go to www.thebatteryshow.com/exhibition/about-the-battery-show

Engine Expo 2015 (with an electric and hybrid pavilion).

Oct. 20-22, Novi, MI. Go to www.engineexpo.com/usa/pavilion.php

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.

February 11

March 11

April 8

May 13

June 10