

[Announcing the Plug-in Electric Vehicles Archive at UC Davis](#) is a one-page summary in development, for which this document provides background.

This “soft launch” announcement was developed around EVS36 in Sacramento, June 11-14, 2023. Quick URL for this GoogleDoc: <http://bit.ly/Davis-PEV-Archive>

[More about the Plug-in Electric Vehicles Archive at UC Davis](#)

The University of California at Davis EV Research Center will soon announce that it has begun to build a **Plug-in Electric Vehicles Archive**. On June 14, Dan Sperling, Mark Duvall, and Dahlia Garas described the archive — see photo caption. Felix Kramer developed a captioned deck: view the PDF at [Arriving](#).



At the Institute of Transportation Studies reception June 14: Gil Tal, EV Research Center Director; Dan Sperling, Institute of Transportation Studies Founder and Director; Dahlia Garas, EV Research Center Research Program Director; Felix Kramer, CalCars.org and WeCan'tWait.World Founder; Andy Frank, UC Davis Professor Emeritus of Mechanical and Aerospace Engineering. And along with Garas, UC Davis alumni: Christopher Nltta, UC Davis Associate Professor; Mark Duvall, General Manager, HeyCharge; Rob Schrhoft, Electric Power Research Institute Senior Technical Leader.

Why will the PEV Archive be at UC Davis?

So many of the university's faculty, students, staff, and administration have had leading roles in electrifying transportation, especially at the [Institute of Transportation Studies](#). The [EV Research Center](#) at ITS-Davis will lead the archive's development, starting with 2002-2010 efforts to commercialize PHEVs. It will be housed at the UC Davis Library's [Archives and Special Collections](#).

Future expansion to all plug-in vehicles!

We see the initial Archive as the kernel that can expand to an EV Archive for the [140-year-long](#) evolution toward the commercialization and broad adoption of all types and sizes of electric vehicles.

We will pursue involvement and support from **automakers, suppliers, and utilities, in California and nationally**, and from others in the plug-in vehicle community.

Starting with PHEVs

While the archive will grow in scope and size, its first focus is on the successful campaign to commercialize plug-in hybrid electric vehicles (PHEVs). That campaign took shape in Davis. Starting with **Dr. Andy Frank**, Professor Emeritus of Mechanical and Aerospace Engineering, known as “the father of the plug-in hybrid” (PHEV).

Initial core materials (including documents, digital media, and other memorabilia) will be from Dr. Frank, along with the substantial collection of [Felix Kramer](#), founder of the California Cars Initiative (CalCars), plus the digital archive of CalCars technical lead, Ron Gremban. ([CalCars.org](#) online includes [photos](#), [endorsements](#), and chronicles in [1,162 news postings](#) from 3/1/05 to 9/26/13.)



Felix Kramer delivers CalCars cartons to UC Davis, received by Dahlia Garas from the EV Research Center and Kevin Miller at the Library's Archive and Special Collections, May 11, 2023.

Other individuals, journalists, and groups will contribute additional material. Organizers are beginning an oral history component, featuring audio and video stories from activists, advocates, entrepreneurs, automakers, and leaders in communities, industry, government, and media.

Quotes from some of the people involved

From the earliest days of EV research, UC Davis has been blessed with exceptional leadership from Andy Frank to Tom Turrentine to Gil Tal. All 3 had the foresight to recognize that PHEVs are an important part of the path to transport decarbonization. We are proud to build on the work done by Andy Frank and the early pioneers of PHEV research as we move towards a more sustainable transportation future. –[Dan Sperling](#), ITS

Our PEV teachers and researchers have helped us understand and act, and our alumni are in transportation all around the world. The founder of our center, the late Tom Turrentine, would be very happy. –[Gil Tal](#), EV Research Center

In 1969, my three-year-old daughter and I watched the first humans land on the moon. I'd worked on the Apollo Project, and after that I decided to build a new kind of car. –[Andy Frank](#), inventor, engineer, entrepreneur

We hoped we'd see mass-produced PHEVs before Andy retired. Now, as he's almost 90, we get to celebrate how far we've come! And how much further we have to go... –[Felix Kramer](#), CalCars

There's no better place than Davis to collect the story of how plug-in cars triumphed. –[Kevin Miller](#), UC Davis Library, Archives and Special Collections

More from Andy Frank, September 2023

It's always good to archive the past so that future researchers and designers can see what already has been. started. But understanding can help us set future goals, such as:

- 1, making a Strong Plug-in Hybrid mMuch less expensive than either a conventional vehicle or BEV.
- 2, other energy storage media
- 3, integration with electric grid via vehicle-to-grid (V2G).
- 4, direct and indirect solar and wind electric energy and power generation, collection, and energy storage.
- 5, social energy systems integration including an all-electric society.
- 6, much more sustainable energy generation and use for the entire human race
- 7, ETC.

Contributors and cooperating organizations

We will be reaching out for participation from (alphabetically) [Beata Electric Motor Carriage Collection](#), [California Auto Museum](#), [California Electrified Transportation Coalition](#), [Center for Automotive Research at Stanford](#), [Electric Drive Transportation Association](#), [Electric Power Research Institute](#), [Electric Vehicle Association](#), [Electrification Coalition](#), [Environmental Entrepreneurs](#), [EVNoire](#), [Institute of Transportation Studies at UC Berkeley](#), [Plug In America](#), [Historic Electric Vehicle Foundation and Rte. 66 EV Museum](#), [World Electric Vehicle Association](#), [WTS International](#), and others.

First kickoff events

We started on Zoom at the PEV Coordinating Call on June 6, when Dr. Andy Frank joined to talk about the Archive. (This call has been monthly since May, 2006.) Here's the one-hour [video on YouTube](#) and here's a rough AI-generated transcript: [PEV call: conversation with Andy Frank, June 6, 2023](#).

We celebrated further as the EV industry converged in Sacramento June 11-14 for EVS36, the 36th Electric Vehicle Symposium and Exposition. Dr. Frank, CalCars Founder Felix Kramer, and Dahlia Garas from the UC Davis EV Research Center talked up the archive at an EV Advocates Social. Zan Dubin Scott posted about the archive at the LinkedIn Strong Plug-in Hybrids page, and we encourage you to like, comment or share [Felix](#)

[Kramer's follow on](#) there. Three days later, ITS leaders promoted the archive at their reception, and Dan Sperling [commented](#) about plug-in hybrids in a conversation with Andy Frank.



Dr. Andy Frank and former student Aashish (Ash) Dalal with the signed plaque of members of Team Fate, at the ITS June 14 reception. Also see Team-Fate [videos](#).

The story of PHEVs

Andy Frank invented the modern PHEV in 1970 as a new professor at the University of Wisconsin at Madison Dept. of Electrical and Computer Engineering. In 1985, he moved to the University of California at Davis Dept. of Mechanical Engineering, and starting in 1991 began to build prototypes with a growing lab of engineering students. For over a decade they were dismissed as “science projects.” By the late 1990’s and early 2000’s, Dr. Frank’s student teams were competing and occasionally winning the Advanced Vehicle Technology Competitions sponsored by the Department of Energy — with the only PHEV at those competitions.

At “[1st Half-Century of PHEVs](#)”, he talked with EV pioneer Chelsea Sexton at a virtual event of the Society of Automotive Engineers of South California, 9/30/2020.

What happened next is a story of crowdsourced engineering, strategic environmental activism, public policy awareness and action, and key community-corporate relationships.

Grassroots conversions by CalCars and others, “hacking hybrids” with more batteries and new control systems helped spur recognition by high-profile leaders and organizations of the potential of PHEVs.

Comprehensive analysis of the benefits and costs of PHEVs, involvement by existing and startup battery and component makers, and a network of advocacy, all set the stage for automakers to design and manufacture PHEVs.

In 2010, the [Chevy Volt](#) was the first to market, winning many Car of the Year [Awards](#). Today, [dozens of PHEV models](#) are for sale in the U.S. and globally.



Ron Gremban, Felix Kramer and Andy Frank, holding the 120-volt charging set, celebrated the delivery of three of the first Chevy Volts produced, at Novato Chevrolet on December 22, 2010.

If you are interested in helping, or to let us know of important resources, please contact:

[Dahlia Garas](#), EV Research Center <dmgaras@ucdavis.edu>

[Felix Kramer](#), CalCars founder <fkramer@calcars.org>

NOTES

Andy Frank has two outdated profiles at LinkedIn:

Andrew Alfonso Frank <https://www.linkedin.com/in/andrewafrank/> has 500+ connections;

Andy Frank <https://www.linkedin.com/in/andy-frank-8669561/> has 351 connections;

both still show him as UC Davis Professor since 1985, CTO at Efficient Drivetrains since 2007, and

The Wikipedia articles on [PHEVs](#), [CalCars](#), [Andrew A. Frank](#), and [Felix Kramer](#) are very out of date! **We urgently need a volunteer to help; Felix can orient a volunteer to become a “Wikimedian” (a Wikipedia editor).**

EV advocates: help ID people in a list and 2 milestone photos

*In the photos below, can you identify any of the * unnamed people — magnify the image on your phone. Please add in “suggestion mode”. And for any of those already listed, please help answer the question, “Where Are They Now?” by adding LinkedIn or other URLs.*

As we’ve done for this roundup: In 2021, Felix Kramer identified women he worked with over the CalCars years. See [89 women plug-in leaders who’ve been electrifying for decades!](#). We are looking for help in reaching out to them. Many could be interviewed for the Archive.

*We are also beginning a list, **Early at Tesla**: people involved early on as employees or investors. Contact [Felix](#) to help!*



On July 29, 2002, after over a year of informal discussions and evolving strategies, what became the California Cars Initiative got started at a knOwhere Design Shop® brainstorming session in Palo Alto. The event was cosponsored by the Rocky Mountain Institute; the group surrounds RMI’s Hypercar. Left to right: Dave Taggart, Joan Blades, ?, Bruce Hodge, Wes Boyd, Matt Taylor, Felix Kramer, David Coale, ?, Andrew Lawton, Tony Seba, (maybe Scott Hassan), ?, JB Straubel, Jim Fruchterman, Arthur Keller, Jay Baldwin, Rochelle Lefkowitz. (Not pictured: Marianna Grossman, Doug Widney; if you were there let us know)



December 30, 2006, at the founding rally of StepItUp, the group that became 350.org, activists from the Bay Area plug-in community showed off plug-in cars and delivered the message that we have the solutions we need.

Kneeling on right: ?, Ron Gremban, Pat Caddam, Angelo Festa

Standing (L-R): Ed Thorpe, (???woman and 2 kids), William Korthof, Nick Rothman (holding banner), ? (behind banner), Marc Geller, ?, ?, ?, Felix Kramer, Len Tramiel (holding banner), ?, (?holding sign), Arthur Keller (holding banner), (? holding sign), ?, ?, ?, ?.