

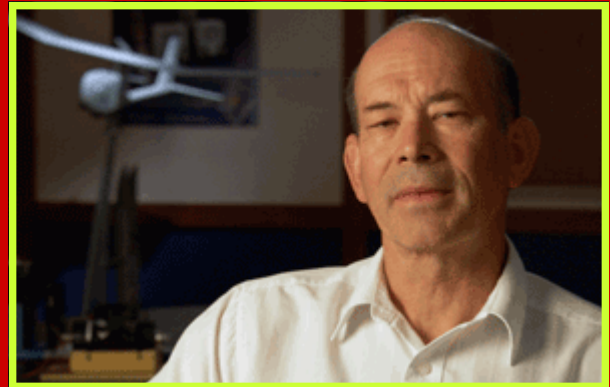
BOURNS COLLEGE OF ENGINEERING

Distinguished Lecturer Series

Wally Rippel

Bourns College of Engineering
Distinguished Lecturer

April 23, 2008—3 p.m.
EBU II 205/206



Making What's Left into What's Right

ABSTRACT: Each second, our planet receives 49 billion kilowatt-hours worth of energy in the form of sunlight. During the last three hundred million years, about eighteen hours worth of this energy has been stored within the Earth's crust in the form of oil. Half of that energy has now been used and the remaining half will be depleted within two decades. In that 97% of transportation is powered by oil, we now face the engineering challenge of providing an alternative. While natural gas and coal are options, the issue of global warming may prevent the use of these fuels where sequestration is not possible. Nuclear energy is not an option for automotive applications. What's left is what may be right – wind and solar – provided energy storage can be economically achieved.

BIOGRAPHY: Wally Rippel has been the Principal Power Electronics Engineer at AeroVironment (R&D) since 1992, where he has invented a variety of things including an integrated charger-inverter for electric and hybrid applications, and designed an advanced hub motor for electric vehicles. Rippel has a B.S. in Physics from Caltech and a M.S. in Electrical Engineering from Cornell University. Previously he has worked as a part time consultant for AeroVironment, where he helped write the proposal for the Impact EV project and worked on the Impact's induction motor and power electronics after AeroVironment received a contract from GM. Rippel has received thirteen New Technology Awards from NASA, has been published over twenty times and holds twenty three US patents. He is now writing a book on transportation futures, titled *Making What's Left into What's Right*.

Reception to follow immediately after the lecture



In 1996 Electric cars began to appear on roads all over California. They were quiet and fast, produced no exhaust, and ran without gasoline.

87.00

THIS SALE \$

21.488

GALLONS

4.049

PRICE PER GALLON \$

who
killed the
electric
car?

A silver sedan, likely a GM Volt, shown from a three-quarter front view. The car is a compact, boxy design typical of the late 1990s or early 2000s. It is set against a dark background.