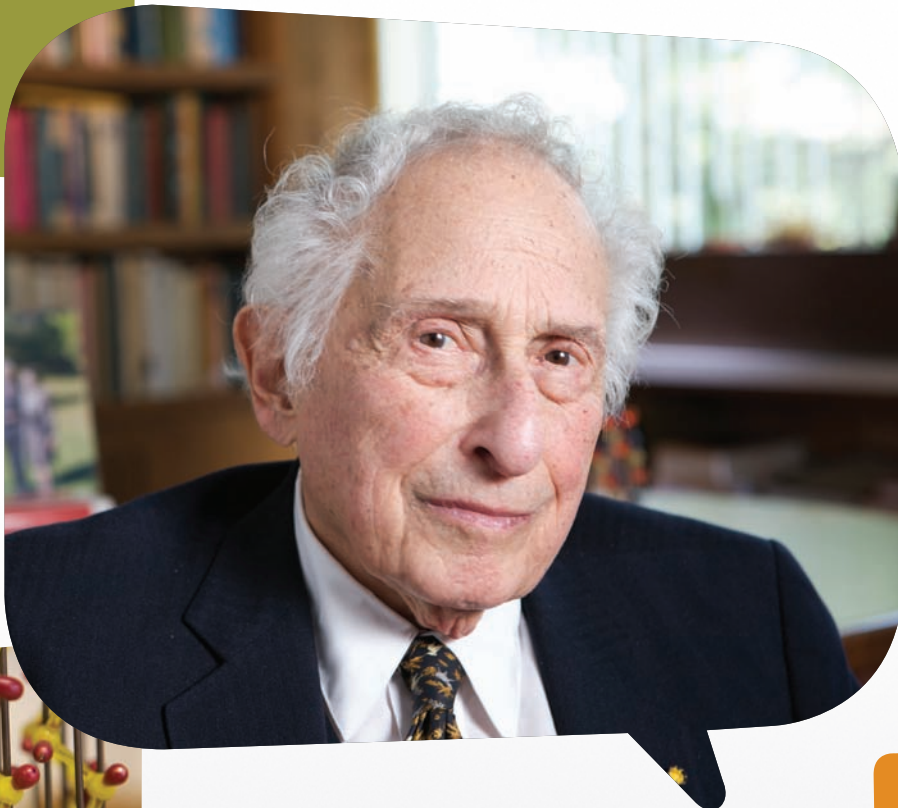


# Stanford Ovshinsky

Highlight Video Transcript



## How can the study of unusual types of materials help power a new economy and make fossil fuels obsolete?

By unlocking the secrets of how special kinds of materials whose atoms are clustered in irregular ways can store energy, a self-taught inventor named Stanford Ovshinsky has developed new kinds of batteries, liquid crystal displays, solar energy laminates and many more energy-wise innovations.

Driven by a love of science as well as strongly held social convictions, Ovshinsky's wide-ranging interests have taken him from the study of how certain types of materials perform to how the human mind processes information. His striking insights and surprising connections have helped enable the devices we use every day — from computer memory, electric and hybrid vehicles to solar energy systems and more.

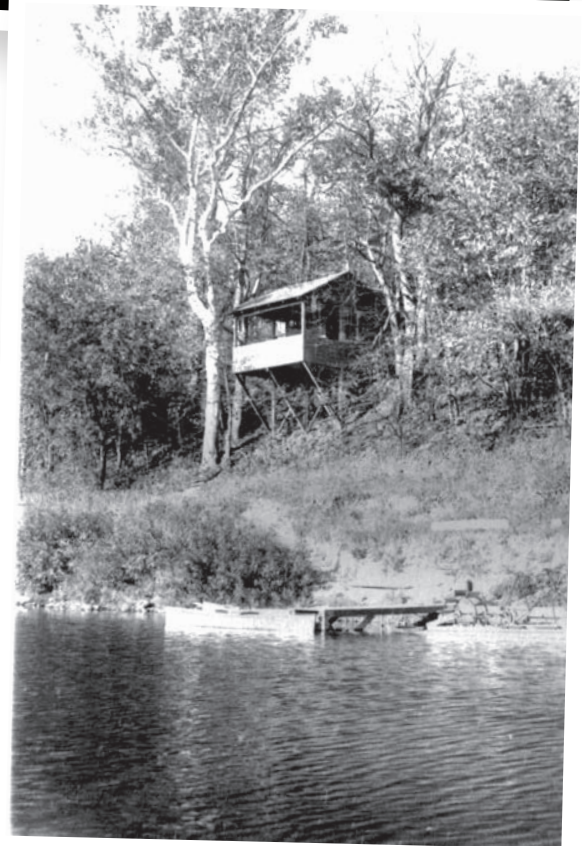


To electrical pioneer Charles Steinmetz, values were of consummate importance. As a scientist, he espoused the value of rigorous inquiry — and the value of applying his discoveries in the service of humanity.

Camp Mohawk was his weekend retreat. He and his guests shared theories and ideas and, in so doing, built knowledge — something Steinmetz considered critical.

The sharing of knowledge has been a hallmark of Stanford Ovshinsky's long, illustrious career. Like Steinmetz, his feet are planted firmly in theory and scientific rigor.

And his work is dedicated to the betterment of the planet. Ovshinsky believes a society built on strong values is a society worth living in — a belief to which the genius of his achievements bears witness.



Left: Charles Steinmetz's cabin in Greenfield Village, Dearborn Michigan. Below right: Camp Mohawk on its original site on the Mohawk River. Upper Right: Hammock inside Charles Steinmetz's cabin.



## Stanford Ovshinsky Tireless Inventor

Pioneer of LCD and solar energy technology,  
holder of 400 patents.

04:12:45; 15

I'm an inventor because I love science — new science. I love new technology and I appreciate the traditions of old. But every generation has that slogan outside the door that says, "Must make their own advances." And I've lived through generations. And at heart I'm about 18, 19 years old. And what I wanna do is to use science and technology for the purposes of what's good for the planet, for the social purposes of eliminating pollution and climate change.

04:13:35; 17

... gases and wars over oil. And importantly for me, to provide the new kinds of jobs that have significant value.

## Putting elements together.

05:01:07; 23

The periodic table — that's my working kit, my toolbox, if I can call it that. I work with multipart, with multistates all the time and prefer them to any single one state. I've made a science out of it. I call it orbital engineering. I call it atomic engineering.

05:01:34; 10

Everything I do ... is based upon that critical thing that I know what to do about putting elements together. So when they respond to each other so that you can get new mechanisms, new phenomena that are physical, chemical, electronic, if you wanna keep repeating, physical and structural, mechanisms that have never been seen or heard of before. That's what I do.

## Looking for problems.

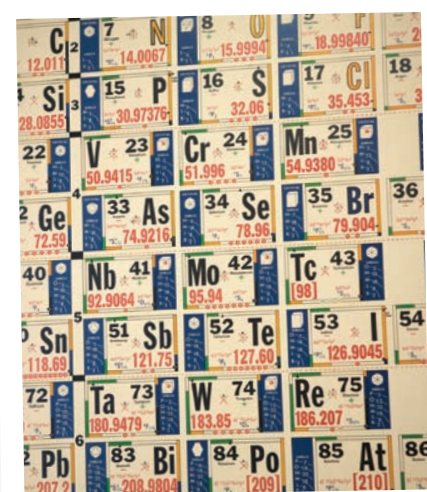
05:03:10; 12

I am not a startup. I don't think anybody 86 would think that he, they'd even wanna start a company. What I'm doing is my life's work, which is inventing, doing new science. Always new science. Always new technology. And I see patterns and somebody else looks at it, it's just a bunch of maze of this or that. And when I look at that, I see the patterns I can get, and what I can do with them.



Stanford Ovshinsky.

"The periodic table —  
that's my working kit, my  
toolbox."  
— Stanford Ovshinsky



One of several periodic tables in Stanford Ovshinsky's office.

05:04:05; 24

Doing innovation is wonderful. Making it happen is a struggle. But not a technology struggle, cause I look for, I am fanatic about, looking for problems 'cause I love to be a problem solver.

## The value of values.

06:02:00; 28

Science has to have values. Human beings are part of civilization. And civilization is the arts and music and those things that advance civilization, the whole world. So you don't have civilization without proper values.

06:04:30; 27

You have this war, that war, crazy, insane things happening, and that's what science does. That's what civilization does, that's what poetry and Shakespeare and acting and singing does. It makes the world worth advancing.

## Hard times yield great science.

06:16:23; 13

An inventor has to be a scientist. I'll give you only two examples. Newton, a great physicist and one of the greatest ever, ever. The plague hit Europe. He was going to Cambridge University.

06:16:55; 08

And to escape the plague, he went as a young man to a farm his folks owned. and he did the greatest physics work of, as a single individual or anybody, that's gone until Einstein.

06:17:52; 05

And in the worst times ever, he was able to come up with the greatest science. Einstein was a patent clerk. He couldn't get a job, 1905. It was a holy year for science, 1905. And then general relativity, which is his greatest, was done during the World War.

06:18; 48; 23

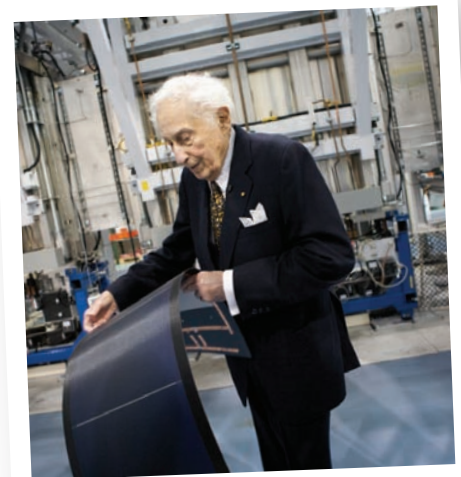
Which he objected to, and yet he did his best work then. So this isn't for faint souls. If you're serious about something, you have to have what our group had: dedication, commitment and continuous learning. Never stop going to your own school.



Detail or solar panel manufacturing deposition machine, United Solar Ovonics.

"Science has to have values. Human beings are part of civilization. And civilization is the arts and music and those things that advance civilization."

— Stanford Ovshinsky



Stanford Ovshinsky demonstrates the flexible solar panels produced at United Solar Ovonics.

## Stanford Ovshinsky has a lot more to say. Visit [OnInnovation.com](http://OnInnovation.com)

to see his full, unedited interview, read the complete transcript and connect with other visionaries thinking out loud.



Stanford Ovshinsky and his hydrogen-powered Toyota Prius.



Stanford Ovshinsky in front of the deposition machine that creates solar panels at United Solar Ovonics.