



[EARTH MATTERS](#)



[HEALTH](#)



[LIFESTYLE](#)



[GREEN TECH](#)



[ECO-BIZ & MONEY](#)



[FOOD & DRINK](#)



[YOUR HOME](#)



[FAMILY](#)

[MNN.COM](#) > [GREEN TECH](#) > [RESEARCH & INNOVATIONS](#)

An interview with Dean Kamen

Genius Segway inventor segues to his own TV series this week. He chats with MNN about robots, sewage and the one topic on which he's far from being an expert.

By Gerri Miller

Wed, Oct 20 2010 at 4:33 PM EST

[Comments](#)



SMARTY PANTS: Dean Kamen sits under a drawing of Albert Einstein created by his father. (Photo: Jessica Hill/AP)

When he was 5 or 6 years old, Dean Kamen devised a way to automatically make his bed by affixing pulleys to the corners. More than five decades later, Kamen holds more than 400 patents for inventions ranging from an insulin pump to a robotic arm to the Segway personal transport. "I knew that I wanted to find better ways to do things," he says, and even though he was a bad student with ADD, he "assumed if you worked hard and find a better way to do something that every once in a while you'll succeed. Every once in a while I did succeed and it gave me an adrenaline rush and the confidence to try another project."

Currently working on new inventions in the fields of energy, environment and medical technology, Kamen will spotlight others' scientific breakthroughs in the new Planet Green series "Dean of Invention", premiering the first two of eight episodes on Oct. 22.

During a visit to Los Angeles — where the New Hampshire resident flew in his own plane — Kamen filled us in about the series and his latest innovations.

MNN: What was the genesis of the series?

Dean Kamen: Radical Media, who I'd worked with before, called me and said they wanted to look at medical, energy and transportation issues, the cool ideas

Earn Points What's this?
Comments
Email
Facebook
Twitter
Stumble
Digg

Earn points, claim WorldShares, save the planet and win prizes!

[Learn More](#)

[JOIN NOW](#)

ADVERTISEMENT



Change the way you meet.

ADVERTISEMENT



TODAY'S MOST POPULAR

- [Eerily eco-friendly: Inside a zero-waste home](#)
- [How to help pets in Japan](#)
- [Seasonal recipes: 5 for leftover corned beef](#)
- [When's the best time to buy gas?](#)
- [Green burial: How to turn a human body into compost](#)
- [Nuclear power and earthquake zones overlap in the U.S.](#)

RECOMMENDED FOR YOU

[Rabid bats on the rise in Los Angeles County](#) | MNN - Mother Nature Network

Powered by Saithru

Share

out there and the people working on solving problems. I said as long as some episodes put a spotlight on my

robotics program for kids, I'd be happy to help. It's called First, [UsFirst.Org](#). I started it 18 years ago to help kids become inventors, problem solvers. It started with a competition between 23 schools, each working with a world-class technology company, and it has grown to over 18,000 schools in 56 countries.

Why is it so important to you to reach kids?

Because they're the only shot that this world's got and if we don't create really smart kids that are capable of solving really complex problems quickly in this race that's going on between catastrophe and knowledge, catastrophe will win. We need an army of smart, passionate kids working on these problems and I think the First program gives them the right perspective, incentive and confidence. It teams them up with serious adults in the kind of environment that nurtures innovation. Almost every major technology company in the country is a big First supporter because they want access to the next generation of the best thinkers and the best problem solvers.

What specific innovations will we see in the series?

One of the shows covers nanorobots and microrobots that literally can travel through your body, find individual cancer cells, and deliver chemotherapy without systemically destroying and poisoning your body. Other small robots will be going into your eye and doing surgery to prevent blindness that's not possible any other way. Large robots like the Big Dog can go out on missions so that we don't have to send soldiers out. A soldier losing his leg is way more tragic than a Big Dog stepping on a land mine. We visited a couple of organizations that are trying different things to turn waste into useful energy or at least turn it into a product that would take less energy to make. Guys in California have figured out how to take effluent and waste products from sewage plants — sadly a lot of that stuff gets dumped in the ocean or gets used as fertilizer and it's not as pure as you think it is — and very efficiently drive all the water out of it with a process they invented and take what's left and pelletize it. Then it has the same characteristics as coal. You can take it to power plants and produce energy with it without burning coal and there's no net carbon increase. We also visited people making purely [electric vehicles](#), commuter vehicles that would be very city-friendly. I'm convinced that this planet is going to adopt more intelligent, more environmentally friendly and more fun ways for people to move short distances. Six of the eight episodes are related to medicine, energy and the environment.



What kind of inventions are you personally working on now?

I've spent quite a bit of time working on wind turbines and exploring control systems and photovoltaic and integration system. We're working on a small sterling cycle electric generator. We put two of them in two villages in Bangladesh, and for 24 weeks we electrified these villages that never had any electricity and the only fuel that goes into those little boxes is [methane](#) from little pits of cow dung the size of a table. And it's better than free because you don't have to dig a hole to put more carbon into the atmosphere. If you don't collect it that methane goes into the atmosphere and it's 21

What can 28,000 rubber duckies lost at sea teach us about our oceans?

[+ Add this to my site](#)

SIGN UP FOR OUR NEWSLETTER

Enter email address

SIGN UP

Daily Weekly

CONNECT WITH MNN

[Twitter](#) [Tumblr](#) [Amplify](#)



Mother Nature Network on Facebook

Like

23,194 people like **Mother Nature Network**.



Sandra



Katarzyna



David



Anndy



Michael

FROM OUR SPONSOR

Premiere Global: Better for your business, better for the planet



Work Together. Apart.



Green Tips for Your Car



Green Tips for Your Home



Green Tips for Your Office

MNN ORIGINALS



Eco-glossary

The latest on the earthquake in Japan.



Translating Uncle Sam

Assessing the risk of a major quake in North America



Ask Mother Nature

How can I help Japan now?

RECOMMENDED FOR YOU

[Rabid bats on the rise in Los Angeles County](#) | MNN - Mother Nature Network

Powered by Saithru

times as bad a gas as CO2 is. I think of these boxes as environmental vacuum cleaners, sucking up the methane, burning it, turning some of that heat into electricity and it turns the CH4 into CO2 and water. It eliminates the smell and the disease-spreading consequences of dung, it generates electricity and it helps the environment.



What else?

We're working on ways to make potable water from polluted water, whether it has organics in it or salt from the ocean, at very low energy input. We made a completely closed system into which the water gets pumped and inside that environment, it's a vapor compression distiller, it creates a slightly lower pressure and the water is heated until it becomes a vapor, and that is compressed even more which makes it hotter. Water vapor at a very high pressure will recondense to a liquid from a gas. It's a continuous process and it's 50 times more efficient as a still. It can make 1000 liters of pure water a day and uses the same amount of energy as a hand-held hair dryer. We put one of them in a little village in Honduras. On the medical end, we work on products that can improve or literally save someone's life. Something like a stent that goes in your coronary artery might only help a few people but without it those people would die, or an insulin pump that can help millions.

Are you always working on new ideas? What feeds your creativity?

Thinking is my hobby. But sometimes you get to where you're stuck and you can't figure it out so you just go work on another project. I always have multiple projects.

Ever wake up with an idea in the middle of the night?

Yes, I do. I sometimes get out of bed and go down to my workshop and play with it.

How green is your home?

I have big, heavy stone walls, which are great for insulation, and bamboo for other walls. They're beautiful and knowing they're sustainable makes them more beautiful. I've got a 50,000-watt wind turbine. I had to fight with the utility company in the early days. I had the first privately owned wind turbine in the state. Every roof of every building I have is covered with over 10,000 volts of photovoltaics. I build energy-controlled systems that control the loads and maximize usage, when I need or don't need air conditioning or heat. I have shades that come down and block the sun whenever the inside of the house is warmer than the outside. They adjust throughout the day. I also own an island in Long Island Sound with a magnificent old lighthouse on it, and I'm completely off the grid there.

What about personal transportation, aside from Segways? Do you have an electric car?

Yes, a Tesla. My plane is a Premiere, it has very efficient gas turbine engines. It goes very fast on relatively little fuel. Flying has been my passion since I was a kid.

Do you have a garden? Grow vegetables?

No. I don't cook. I eat out all the time. I've never prepared a meal in my life. That's one area I'm not competent in.

Related on MNN:

- [Video of Kamen's secret island](#)
- [More TV show news](#)

Earn Points What's this? [Email](#) [Twitter](#) [Stumble](#) [Digg](#) [Share](#)

[Like](#) 56 people like this.

Related Links

- [Ecollywood: Odds and ends](#)
- [Red carpet, green girls](#)
- [Malin Akerman greens her home and her neighborhood school](#)

Related Topics

- [Green Gadgets](#)
- [TV Shows](#)

RECOMMENDED FOR YOU

[Rabid bats on the rise in Los Angeles County](#) | MNN - Mother Nature Network

Powered by Saithru