



Woodrow Wilson
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News Release

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Nanotech Could Make Solar Energy as Easy and Cheap as Growing Grass
Podcast explores how nanotechnology can help capture and store the sun's energy

WASHINGTON, DC—Scientists are working to produce cheap, sustainable solar energy by imitating nature. Nanotechnology researchers like California Institute of Technology professor Nate Lewis are exploring nanoscale materials that mimic the architecture of grass and photosynthesis to capture and store the sun's energy.

A new podcast looks at how Dr. Lewis and his CalTech research team are trying to imbed tiny nanoparticles into simple, inexpensive everyday products like house paint and roof tiles to revolutionize the way solar energy is produced.

“More energy from the sun hits the earth in an hour than all the energy consumed by human beings on our planet in an entire year. So, if we are going to find an efficient, environmentally-friendly substitute for fossil fuels, it makes sense to exploit the sun,” says Dr. Lewis. “Nanotechnology offers us a way, in principle, to make very cheap materials—like the paint you buy at Home Depot—act as solar cells and batteries.”

Ordinary-looking, nano-enabled house paint, roofs or shingles could replace today's black, glasslike photovoltaic cells which are usually composed of crystalline silicon and are unwieldy, unsightly and very expensive to manufacture. In addition to homes, this innovative technology someday could power cell phones, laptops and even automobiles.

Listen to Dr. Lewis talk about his research in the latest episode of an exciting new series of podcasts, *Trips to the NanoFrontier*. Produced by the Wilson Center's Project on Emerging Nanotechnologies, these podcasts are available online at www.penmedia.org/podcast, or directly from Apple's **iTunes** music store.

The podcasts and a recent publication, *NanoFrontiers: Visions for the Future of Nanotechnology* (www.nanotechproject.org/114), are written by freelance science writer Karen F. Schmidt. They continue the discussion begun at the February 2006 *NanoFrontiers* forecasting workshop, co-sponsored by the National Science Foundation (NSF), National Institutes of Health (NIH), and the Project on Emerging Nanotechnologies.

About Nanotechnology

Nanotechnology entails the measurement, prediction and construction of materials on the scale of atoms and molecules. A nanometer is one-billionth of a meter, and nanotechnology typically deals with particles and structures larger than 1 nanometer, but smaller than 100 nanometers. To put this into perspective, the width of a human hair is approximately 80,000

nanometers. In 2014, Lux Research estimates that \$2.6 trillion in manufactured goods will incorporate nanotech, or about 15 percent of total global output.

The **Project on Emerging Nanotechnologies** (www.nanotechproject.org) is an initiative launched by the **Woodrow Wilson International Center for Scholars** and **The Pew Charitable Trusts** in 2005. It is dedicated to helping business, government and the public anticipate and manage possible health and environmental implications of nanotechnology.

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