

# THE NEW WANDERINGS

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## **Feature:**

My wife, Gail, and I recently bought a small cabin in the woods. Before we had a power connection there was no way to keep things cool. I could have, easily, thrown a few ice packs in the cooler and had my cold drinks. But that was not too scientific. Instead, remembering the work of Rolex Award winner [Mohammed Bah Abba and his pot-in-pot cooling system](#) I hacked together a quick version of his cooler using peat moss instead of sand. It worked! [Then to service my other needs ☺](#)

## **The Rolex Awards**

Making a Difference: Rolex supports outstanding projects in the fields of science, technology, exploration, environmental conservation and cultural heritage

Here are a few of the many [Rolex Award winners](#):

### **Rolex Award Winner Hans Hendrikse**

Hans and his brother, Pieter, designed the Q-Drum a low-cost rolling water container for developing countries.

### **Rolex Award Winner Makoto Murase**

Murase is the first to develop practical ways to use rain on a large scale for urban environments.

### **Rolex Award Winner Steven Lurie Garrett**

Steven develop a CFC-free refrigerator to help the ozone layer

### [Rolex Award Winner Forrest M. Mims III](#)

Forrest designed an instrument, the Total Ozone Portable Spectrometer (TOPS), to monitor ozone, and other instruments to measure haze and water vapour.

### [Will Bill Gates Build Toilet 2.0?](#)

The Bill & Melinda Gates Foundation has entered into a joint venture with the German government to improve sanitation in poor urban areas.

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## **Wanderings:**

### [Citizen Science Alliance](#)

“The Citizen Science Alliance is a collaboration of scientists, software developers and educators, who collectively develop, manage and utilise internet-based citizen science projects in order to further science itself, and the public understanding of both science and of the scientific process. These projects use the time, abilities and energies of a distributed community of citizen scientists who are our collaborators”.

### [From Dust to Edge](#)

Tim Dolan sent us this link that chronicles Jesus Hernandez’s journey through the various steps that he took to make a knife blade out of homemade steel.

### [Rust Removal using Electrolysis](#)

Do you have a severely rusted tool or other object? Why not use science to clean it up?

### [Electrolytic Rust Removal](#)

Geoff Gariepy's YouTube Video demonstrates this rust removal process.

### [The Open ECG Project](#)

The goal of the Open ECG Project is to develop an open source, low cost, and clinically functional electrocardiography solution.

### [A Toothpaste Diode?](#)

This article shows how to build a diode with toothpaste. What other common materials could be used? Experiment!

### [Ben Krasnow's Blog](#)

Ben’s blog contains some of his favourite projects, which include everything from woodworking to electronics.

### [An Examination of the Amateur Scientist Circuit Board Nitrogen Laser](#)

[Jon Joss](#) gives his views on the theory of the operation of this laser.

### [DIY Photo Bio Reactor](#)

Here is Jared Bouck's apparatus for producing algae.

### [What Can We Do With Algae?](#)

Algae + CO<sub>2</sub> = Biofuel

### [How To Make Springs](#)

This 126-page tutorial will guide you through the design and fabrication of various types of springs.

### [Laser Microscope](#)

Teravolt shows us how to build a quick and easy laser microscope.

### [Laser Projection Microscope](#)

Here is another version of Teravolt's microscope.

### [Rob's Laser Microscope Build](#)

And --- another one

### [Michael Gasperi's LEGO Mindstorms NXT/RCX Sensor Input Page](#)

Michael has compiled a large resource of Mindstorm Sensors.

### [Webcam Based DIY Laser Rangefinder](#)

[Todd Danko](#) has several interesting projects such as a laser range finder and [an Internet controlled stepper motor](#).

### [Build a low cost DIY 3D scanner](#)

Two Cornell University students design a low cost 3D Scanner.

### [David --- A 3D laser Scanner](#)

Try DAVID, a free and easy-to-use software for low-cost 3D laser scanning! Try eBay for the Line Laser.

[See DAVID on YouTube](#).

### [Fluid Scanning](#)

Use milk or ink for 3D scanning.

### [How to Build a Machine to Produce Low-Energy Protons and Deuterons](#)

Larry Cress built a Particle Accelerator that was featured in C. L. Stong's August 1971 [Amateur Scientist column](#).

These YouTube videos show [Part #1](#) and [Part #2](#) of an updated version of Larry's accelerator.

### [The Theremin](#)

The Theremin is a musical instrument, named for inventor Leon Theremin that uses electronic circuits to produce audible tones.

### [World Lunar Eclipse Calculator](#)

This calculator will give critical information about recent and future lunar eclipses for any spot on the Earth. Scroll down the page and check out their other calculators.

### [Living Tongues Institute for Endangered Languages](#)

The Living Tongues Institute for Endangered Languages is a non-profit organization dedicated to the documentation, revitalization, and maintenance of endangered languages.

### [The Enduring Voices Project](#)

The goal of the Enduring Voices Project is to document endangered languages and prevent language extinction by identifying the most crucial areas where languages are endangered.

### [25 Amazing Ancient Beasts](#)

Marlene Donnelly compiled this showcase illustrating the artistic representations of what some of the recently discovered fossils may have looked like in real life.

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## **The Kids Room:**

### [Scientists Need Your Help!](#)

Mars Scientists are asking students from around the world to help them understand the red planet.

### [The Canada Wide Virtual Science Fair](#)

This is an annual online science and technology contest open to all Canadian students in grades K-12.

### [Newton --- Ask a Scientist](#)

Newton is an electronic community for Science, Math, and Computer Science K-12 Educators that have been answering questions, since 1991, that help to enhance the knowledge of students and teachers alike.

### [The Magic Ring](#)

“This physics illusion trick is relatively easy to perform, yet it's deceptive and eye-catching.”

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## **Suppliers And Stuff:**

### [Wow! Can We Do That Again?](#)

This e-book is a super quick & easy "hands on" guidebook, full of exciting, educational science demonstrations & experiments for students of all ages.

### [Solar Cell Kits](#)

Here are several educational solar cell kits that can teach the basic principles of science and solar energy.

### [How Fast Was That?](#)

Hammacher Schlemmer carries a Shirt Pocket Radar Gun.

### [The Amateur Scientist CD-ROM](#)

There are several sources for this CD containing the complete collection of *Scientific American's* [“The Amateur Scientist”](#) column from 1928 to its final cancellation in 2001.

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## **Random Samples:**

### [The Models of Dr. Young Park](#)

A retired dentist turns his skills to making aluminum aircraft models

### [DIY Is Not a New Phenomenon](#)

Pre-WWII children were expected to entertain themselves. With no TV, Xbox or Internet what were they to do? They used their hands, imagination and the many books and magazines that showed them how to build things. For example check out [Boys Books](#) at [Lindsay Publications](#), [The American Boy's Handy Book](#) and [The Boy Mechanic](#).

[WorldCat](#)

WorldCat is an on line service that lets you search the of library collections in your community and thousands more around the world.

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**On The Lighter Side:**

[Home Made Roller Coaster](#)

Some people have too much time on their hands ☺ This is a good example of physics in action.

[Rube Goldberg Machine](#)

Someone else has too much time on their hands.

[Honda - The Cog](#)

Turn your Honda into a Rube Goldberg Machine.

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**From The Far Side:**

[Out Of Their Minds](#)

Canada's CBC Radio is running a series, Out of Their Minds that examines exciting ideas and inventions, and the heretical thinkers behind them. It will feature in-depth documentaries on inventors and innovators with novel approaches to seemingly intractable problems.

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