

## Solar Ultraviolet Disinfection System for Safe Drinking Water

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**Categories:**

- Agriculture
- Green Technology

**Keywords:**

- Agbiotech
- Agriculture
- Clean Water
- Drinking Water
- Green Technology
- Solar
- Water

A major health concern in developing countries around the world is water quality. Water can be contaminated with disease-causing pathogens or with harmful chemicals. Technologies used in developed countries are often not practical for developing nations due to cost and energy requirements. Solar UV radiation inactivates pathogens in a water supply by causing damage to nucleic acids and proteins so that the cell cannot replicate and cause an infection. The empirical design of current technologies still leaves uncertainty about the quality of the disinfected water. Also, existing disinfection systems that use a constant-flow design require electrical energy to generate artificial UV radiation, which is not practical for developing nations.

Researchers at Purdue University have developed a solar UV radiation-based system to disinfect water continuously. Water is pumped through a UV-transparent tube that is positioned in a solar concentrator. Controlled flow of water through the irradiated area allows for reliable and predictable performance.

To view a video related to this technology, click on this link: <http://www.youtube.com/watch?v=mldIzgpRvdo>

**Advantages:**

- More reliable and predictable decontamination
- No power required
- Inexpensive and facile

**Potential Applications:**

-Clean water

**People:**

- Blatchley, Ernest Rowland (Project leader)
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- Mbonimpa, Eric Gentil
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**Intellectual Property:**

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