## Printable Solar Cells



#### Christine Luscombe

Associate Editor Adjunct Associate Professor Chemistry Associate Professor Materials Science and Engineering

#### **CURRENT RESEARCH**

# Crafting more sustainable, efficient, and affordable energy sources

It is estimated that by the year 2088, we will have depleted fossil fuels as a source of energy. Therefore, it is clear that developing an alternative renewable source of energy is crucial for the future of our society. One area scientists have focused upon is crafting ways to use solar energy as a replacement for fossil fuels. Dr. Christine Luscombe, of the University of Washington, is developing printable inks that can be used to make solar cells. By developing materials to enable renewable energy. Dr. Luscombe is able to follow her passions for applying what she knows with tools that can help society. While solar energy is an extremely promising replacement for fossil fuels, large area deployment has been limited because of the high costs associated with making the devices. If Dr. Luscombe's research is successful in finding a way to print solar cells, similarly to the way newspapers are printed, the way we get energy could be revolutionized.

Dr. Luscombe and her team are trying to produce polymers that can be dissolved in solvents to create the inks. Specifically, she is trying to make semiconducting polymers that can absorb the light and also conduct charges. Creating a printable solar cell can be a challenge for a variety of reasons including, cost, efficiency, and environmental sustainability. Her research is unique because of her holistic focus on finding solutions for alternative energy sources. Therefore, her solutions look at the big picture; trying to make the most efficient solar cell, concentrating on the development of materials and devices, and working on creating more environmentally friendly solutions. In short, Dr. Luscombe's research is a promising step towards independence from fossil.

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#### **AFFILIATION**

W University of Washington

#### **EDUCATION**

- Ph.D. in Chemistry 2005 ,University of Cambridge, Cambridge, UK
- M.A. in Chemistry 2003 ,University of Cambridge, Cambridge, UK
- B.A., M.Sci in Natural Sciences 2000 ,University of Cambridge, Cambridge, UK

#### **AWARDS**

- College of Engineering Junior Innovator Award
- Sloan Research Fellowship
- DARPA Young Faculty Award
- NSF Career Award

#### **RESEARCH AREAS**

Environment, Clean Energy, Space

### **FUNDING REQUEST**

Your contributions will support the continued research of Dr. Luscombe, of the University of Washington, as she seeks to find sustainable solutions to renewable energy sources and fossil fuel depletion. Your support will aid the necessary \$100,000 per year to support graduate students, materials, and supplies. In choosing to donate to Dr. Luscombe's research, you will be part of the long term solution for renewable energy!

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