



Enhancing Renewable Energy with Photonics

Professor Peter Bermel

After a period of dormancy, the problem of converting sunlight and heat into electricity has again begun to attract a great deal of attention. The most well-known approaches developed in the 20th century are photovoltaics and thermoelectrics, respectively. In this talk, I'll discuss the limitations of both approaches, and discuss some fundamental modifications and alternatives that can potentially yield higher performance: namely, angle- and wavelength-selective photovoltaics, and thermophotovoltaics. In both cases, it is found that controlling the flow of light is fundamental to achieving high performance. I'll talk about general principles derived from the fields of photonics and metamaterials, as well as specific designs suited to particular applications.

OPSC Lecture Series

Please join Purdue's OSA student chapter in an informal talk presented by Professor Peter Bermel. This will be an excellent opportunity to learn, and ask questions about the previous and future research of one of our newest faculty members.

The OPSC is the OSA Purdue Student Chapter, founded in August, 2011. The OPSC is part of worldwide network of student chapters supported by the Optical Society of America (OSA). It aims to bring together students, faculty, and industry working in optics through various activities. Promoting the science of light and introducing a broader community to the advances of this exciting field.

Drinks and snacks will be provided.

Thursday, April 12

13:00 - 14:00

Birck Nanotechnology Center

Room 2001



Questions? Contact:

opsc@expert.ics.purdue.edu

<http://web.ics.purdue.edu/~opsc/>