

COLLOQUIUM

The (Solar) Energy Challenge

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July 13, 2016

4:00 p.m. - Wilson Hall, One West

Climate disruption coupled with global population growth and development represent the most daunting societal challenge we have ever faced as a species. We must shift our energy production from fossil fuels to low-carbon sources on a massive scale within the next few decades. Solar energy embodies by far the most plentiful available resource to this end and will necessarily represent a significant fraction of our energy mix in the future. In this presentation, I will frame this challenge in the context of currently available solar energy technologies. Using life cycle assessment to analyze the ultimate scalability and environmental impact of photovoltaic technologies, the need for next-generation materials becomes apparent. With these insights, I will discuss the current status and future prospects for solar energy.