PURDUE UNIVERSITY

Birck Nanotechnology Center

Shannon Yee is an Assistant Professor at the G.W.W. School of Mechanical Engineering at the Georgia Institute of Technology. Dr. Yee joined Georgia Tech in January of 2014 directly from his PhD at the University of California Berkeley where he studied under Prof. Arun Majumdar, Prof. Rachel Segalman, and Prof. Chris Dames. In the midst of his studies in 2010, he joined the US. Dept. of Energy's Advanced Research Projects Agency for Energy (ARPA-E) during its inaugural year as the first ARPA-E Fellow. Dr. Yee completed his MS in Nuclear Engineering in 2008 and his BS in Mechanical Engineering in 2007 both from The Ohio State University. In 2008, he was awarded a prestigious Hertz Fellowship. In 2015, Dr. Yee was selected for an AFOSR Young Investigator Award. Dr. Yee is the recipient of the 2017 ASME Pi-Tau-Sigma Gold Medal award.

Scalable Thermal Energy Engineering Technologies

Thursday, February 8, 2018
10:00 – 11:00 am
BRK 1001

The thermal conversion technologies that STEEL currently focusses on are: (i) polymer-based thermoelectrics, (ii) thermoelectro-chemical converters, specifically sodium ion heat engines and redox flow coolers, (iii) mass manufacturable thermoelectric technologies, and (iv) betavoltaic energy converters. The thermal transport technologies that STEEL currently focusses on include optothermal and electrothermal techniques primarily used for in-plane and through-plane polymer thermal conductivity measurements. Prof. Yee also co-directs the Heat Lab, which aspires to be the global center of excellence in thermal measurements, simulations, and innovation. The Heat Lab is a user facility training graduate students in a suite a thermal property measurement techniques and providing thermal expertise to solve pressing thermal problems facing industry. This seminar is structured as a choose-your-own-adventure across numerous topics based on audience interest. The underlying motivation across these topics stems from global electrification, global cooling, and electrifying transportation.The most popular topics cover: (a) air-stable metal-coordinated n-type polymer thermoelectrics, a best in-class n-type polymer thermoelectrics, (b) thermal transport in amorphous polymers, empirical observations of propagons and diffusons, and (c) thermoelectric and thermo-electrochemical converters, opportunities for improved generator and cooler efficiency.

PURDUE UNIVERSITY Discovery Park