

The Biannual Resnick Lecture Series

Dept. of Physics, Applied Physics and Astronomy Colloquium

Thermoelectrics: Smart Energy Materials

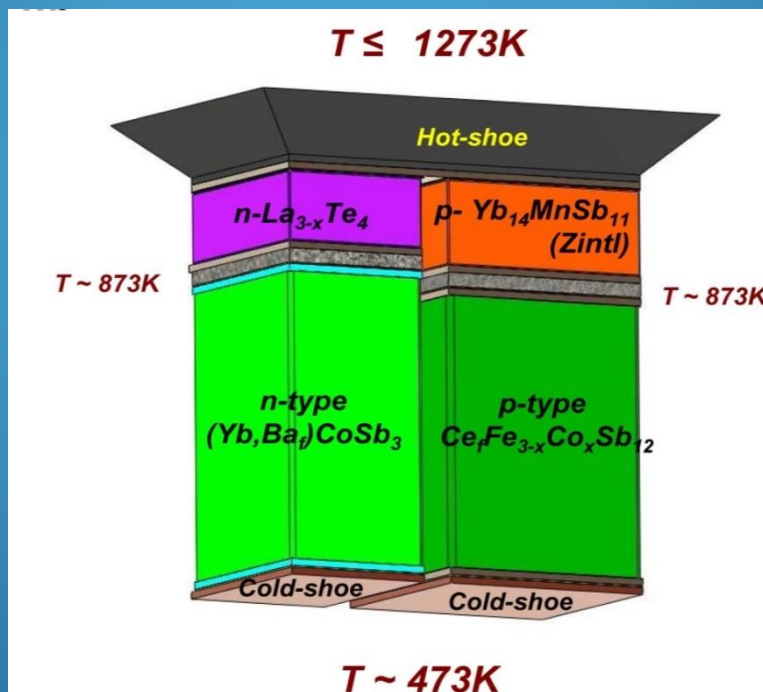
Gerald D. Mahan

Distinguished Emeritus Professor of Physics
The Pennsylvania State University

Time: 4 PM-5 PM, Wed. March 29, 2017, a reception at 3:30 PM

Place: DCC 330, Rensselaer Polytechnic Institute, Troy, NY

For questions, contact Prof. Terrones at terroh@rpi.edu



ABSTRACT: Thermoelectrics are semiconductor materials that are used to convert heat flow to electricity, or to convert electricity to heat flow. They are the basis of solid state refrigeration, and solid state power generation. It has become a large technical industry with many new products and applications. In this lecture, I review the science of thermoelectric, and give examples of thermoelectric materials and thermoelectric-based products. I also discuss the nature of the Seebeck coefficient in a typical semiconductor such as silicon.