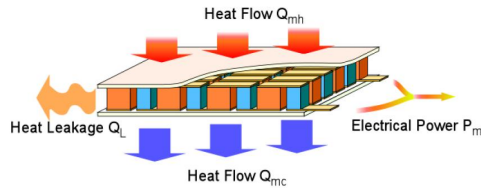


**U.S. Department of Energy - Energy Efficiency and Renewable Energy
Vehicle Technologies Program**

2009 Thermoelectrics Applications Workshop



**Thermoelectrics
Applications Workshop**



Hold the Date

The 2009 Thermoelectrics Applications Workshop will be held on September 29 to October 2 in the Del Coronado Hotel in greater San Diego, CA.

The DOE Vehicle Technologies (VT) Program has pioneered the development and application thermoelectrics in vehicles. As a result, it is expected that within 5 years, the first generation thermoelectric generators that will directly convert engine waste heat to electricity will be commercially introduced in the automotive market. DOE/VT is also jointly funding, with the California Energy Commission (CEC), competitively selected project teams headed by Ford and GM to develop automotive thermoelectric heating, ventilation and air-conditioning (TE HVAC) systems, using the "zonal concept" of cooling or heating only the occupants and not the whole cabin, which will revolutionize occupant comfort conditioning. TE HVAC systems are strong candidates to replace current vehicular air conditioners using the refrigerant gas R-134a with a global warming potential that is 1,300 times that of carbon dioxide (CO₂).

When successful, these two automotive applications will greatly expand the volume of thermoelectric materials to supply the auto market here and abroad, providing an added stimulus to develop more efficient thermoelectrics, improve scale up production capabilities, and reduce cost with volume production as has historically been the case with semiconductor devices.

The purpose of this Workshop is to expand the interest in thermoelectrics for automotive as well as other applications, such as directly converting waste heat from industrial processes, geothermal, stationary power prime movers (gas turbines and diesels), rail, marine and off-highway equipment to electricity. Key Principal Investigators will be invited to summarize their work for this audience. The Project Engineers on the DOE/VC TEG and TE HVAC will provide a summary of their design efforts. Representatives from the fabrication community will be invited to discuss scale up and "commercial viability"

Department of Defense representatives will be asked to present an overview of the thermoelectric related R& D (unclassified) that they are supporting and define some of their applications interest. We are also inviting representatives from Europe and the Far East to provide a summary of their thermoelectric activities.

We are striving to develop this as a cross disciplinary Workshop using nomenclature familiar to Mechanical Engineers who historically have brought material advances to useful applications. Networking will be an important element of this Workshop.

Contact Information:

John W. Fairbanks
Technology Development Manager - Thermoelectrics
U.S. Department of Energy
1000 Independence Ave SW
Washington, DC 20585
john.fairbanks@ee.doe.gov
phone: (202) 586-8066