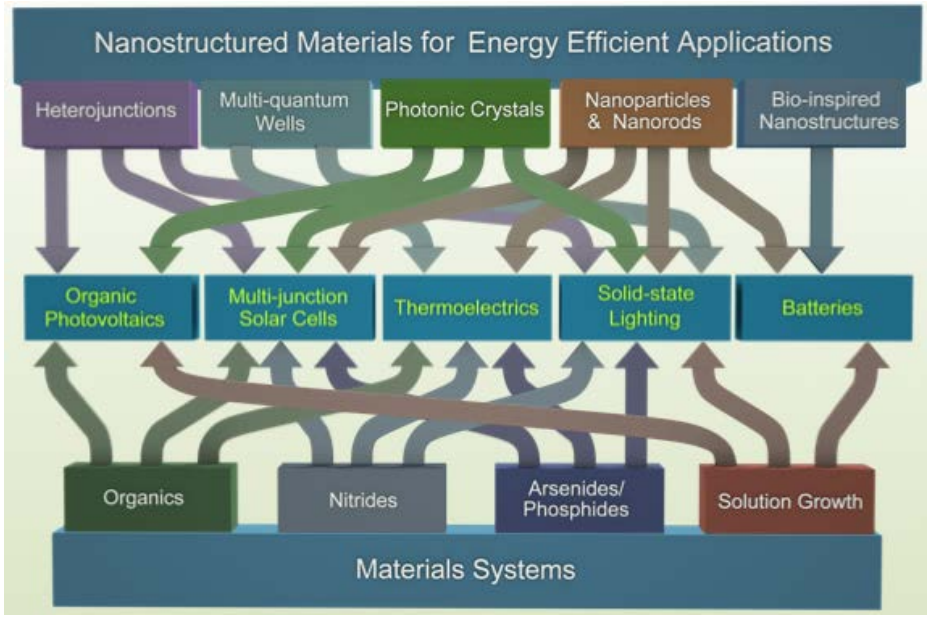
U.S. DEPARTMENT OF ENERGY | Office of Science

Center for Energy Efficient Materials
John Bowers (UC Santa Barbara)

A basic research program to discover and characterize new materials that control the interactions between light, electricity, and heat at the nanoscale, and to apply them to achieve higher efficiencies in photovoltaic solar cells, solid-state lighting, energy storage and thermoelectric conversion of heat into electricity.



<u>Research thrusts</u>:

- Conjugated polymer and small molecule semiconductor blends for <u>organic solar cells</u>.
- High efficiency semiconductor <u>multi-junction thin-film solar cells.</u>
- Nanofabrication of electrodes for high energy durable <u>lithium ion batteries</u>.
- Innovative materials and devices for <u>LEDs with high luminous efficiency</u>.
- Novel <u>nanostructured thermoelectric materials</u> for improved conversion of heat to electricity.

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