Nanomaterials and Device Structures for Photovoltaic Solar Energy Conversion

Researcher

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Research

Prof. Katz conducts research with the aim of resolving the greatest challenges facing the development of novel photovoltaic devices and to combine high efficiency, stability and reproducibility in a single inexpensive device. His investigations encompass three directions:

- Development of inexpensive, efficient and stable materials and solar cells based on organic semiconductors, fullerenes, carbon nanotubes and nanoclusters, organic-inorganic (perovskite) hybrids.
- The study of photovoltaic conversion under ultra-high concentration of sunlight (up to 15,000 suns).
- Development of novel concepts and device architectures for ultra-efficient photovoltaics (external photon recycling, light management, ultra-thin photoactive structures, etc.).

Applications & Products

Various photovoltaic cells based on novel nanomaterials and device structures.