

2) TITLE: Novel nanostructured thermoelectric hybrid materials

In this project, we aim to fabricate and investigate novel organic-inorganic hybrid materials for thermoelectric applications. The goal is to realize efficient low temperature ($T < 100^{\circ}\text{C}$) thermoelectric thin films and coatings which can contribute for example to energy efficient buildings. By combining nanostructured inorganic materials with conducting polymers a novel approach for this class of materials shall be realized. Possible inorganic nanomaterial components include Silicon nanocrystals (either undoped, n-type or p-type doped) as well as other nanoparticles. Different polymer materials such as the polymer blends of conjugated polymers, which can be tuned in conductivity and in its nanostructure, shall be used as the organic partner in our hybrid approach.

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