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Energy Use in Buildings Enabling Technologies

Title

Printed Power Harvesters and Energy Storage

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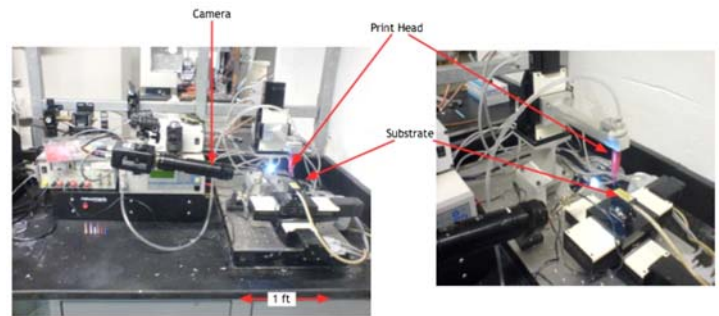
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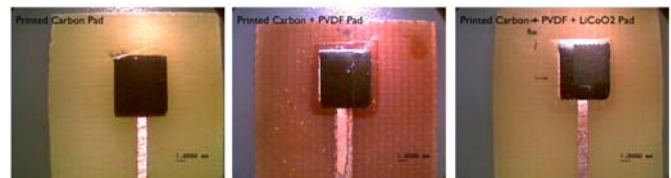
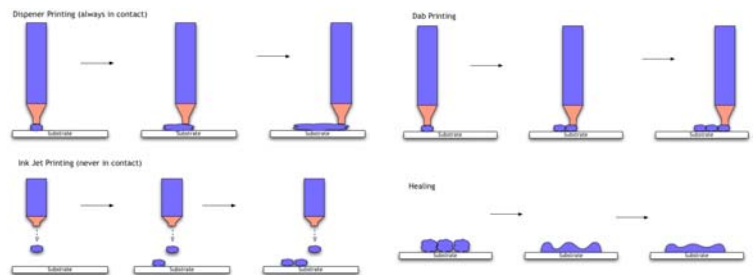
Dispenser Printer

The dispenser printer is a contact, low impact fully additive device which deposits thin or thick films. The printer can handle a wide range of viscosities and consistencies; virtually any functional ink can be deposited. The printer is also fully additive, allowing for high material yield and little lab waste.



Thick Film Energy Storage

“Smart Dust” Devices are limited in both volume and footprint; area-wise energy density must be maximized. Our process trades the material purity achieved through CVD and sputtering for thick, functional films, allowing multiple times the capacity of traditional storage structures for a given footprint. We are currently testing lithium ion and silver zinc batteries, and carbon based super capacitors.



Power Generation

Thin film thermoelectric and piezoelectric generators, for various reasons, have not matched the performance of their bulk counter parts. We are currently investigating the use of our printer for creation of three dimensional bismuth telluride structures.

