Three-Dimensional Printing of Electrochemical Energy Device Structures

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This project aims to carry out an initial demonstration that three-dimensional (3D) printing can be used to fabricate entire electrochemical device stacks, e.g. fuel cells.

Combines expertise of Prof Shah in 3D printing and of Prof Barnett in ceramic fuel cells.

Complex ceramic-based structures have important applications as chemical reactors, membranes, and electrochemical cells for energy conversion and storage. The proposed project will develop a potentially important new paradigm for producing such structures.

Images of preliminary 3D printed ceramic fuel cell materials and structures.