

3D Printed Filters

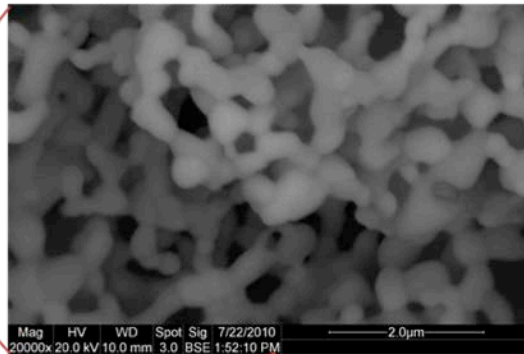
Research Overview

Development of ceramic filtering technology via 3D printing and subsequent materials processes.

**3D Printed
Filter Concept**



**Porous ceramic
microstructure concept**



**Materials
Processing**

Potential Collaborations

- Filter design and 3D printing
 - Design/build novel and efficient filter geometries enabled by 3D printing
 - Investigation of thermoplastic 3D printing limits relative to design space of filters
 - Optimized 3D print instructions based on geometry
- Post-printing enhancements
 - Controlled etching of 3D printed polymers
 - Slurry dip coating of 3D printed polymers
 - Porous ceramic filters by thermal processing of slurry coated 3D printed polymer templates
 - Multi-scale structure control of porous ceramic filters prepared from 3D printed polymer templates

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