

## A MODEL FOR SHAPED FIBER-BASED HEPA FILTRATION

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### **ABSTRACT**

The overall goal of this project is to develop high efficiency particulate air (HEPA) filter media, using conventional fiber spinning techniques, with lower pressure drop than current media through the use of shaped fibers. HEPA filters are widely used in both military and civilian applications.

This presentation will focus on modeling HEPA filtration using a filter consisting of capillary-channel polymeric (C-CP) fibers. The mathematical model and method of solution will be described. Then results are presented for a variety of conditions (fiber shape, number of layers, packing density, face velocity, particle diameter and mass).