**Numerical Modeling of an Experimental Method for Characterizing Fluid Flow in Porous Materials**

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**ABSTRACT:**

Characterization of fluid flow in porous materials is an important step in the development of efficacious absorbent personal care products.  Experimental methods of characterizing fluid flow are well accepted throughout industry.  However, reliance on experimental methods can lead to long development times, due to the necessity of fabricating materials and then conducting experiments on these real materials.  Development of numerical models of well-accepted experimental methods allows the researcher to explore and assess the potential of new structures and systems that may not be able to be assessed readily using experimental approaches only.

This poster will describe a numerical model of an experimental method that is used to measure the rate of fluid entry into porous materials. The model includes a technique that accounts for changes in permeability due to filtration of particulates from the fluid.  This behavior is relevant to many applications, including those products that are used to contain complex body fluids such as menses.  Modeling results show good relationship to experimental behavior.  This numerical model can be used to assess the expected fluid flow behavior of absorbent materials in a manner that allows for more rapid development cycles as well as providing additional insights into fluid flow behavior.