

## **Clogging in microfluidic channels**

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Clogging in microchannels is frequently observed when particles are injected in them. Clogging raises practical issues, and in many cases, the question is to know whether it can be avoided or controlled. The physical mechanisms that come into play in the clogging phenomena obviously involve adsorption, electrostatics, and hydrodynamics. How such contributions combine to produce clogging is far from being understood at the moment. In this study, we study clogging phenomena in arrays of tens of parallel microfluidic channels, and determine statistics of the clogging time. Several mechanisms are shown, depending on the particle sizes (relatively to the channel dimension). We are particularly interested in studying how the channel surface chemistry influences on the clogging behavior.