1135-VF-1546   **Chris McCarthy***, 199 Chambers Street, New York, NY. *Modeling Adsorption Based Filters: 1 Dimensional Filter Equation (Bio-remediation of Heavy Metal Contaminated Water).*

I will discuss kinetic models of adsorption, as well as one dimensional models of such filters. These mathematical models have been developed in support of our interdisciplinary lab group. Our group conducts research into bio-remediation of heavy metal contaminated water via filtration. The filters are constructed out of biomass, such as spent tea leaves. The spent tea leaves are available in large quantities as a result of the industrial production of tea beverages. The heavy metals bond with the surfaces of the tea leaves (adsorption). The models involve differential equations, stochastic methods, and recursive functions. I will compare the models' predictions to data obtained from computer simulations and experimentally by our lab group. (Received September 23, 2017)