

1145-VF-1580      **Chris McCarthy\*** ([cmccarthy@bmcc.cuny.edu](mailto:cmccarthy@bmcc.cuny.edu)), Dept of Math, BMCC CUNY, 199 Chambers Street, New York, NY 10007. *Modeling and Design of Adsorption Based Filters: Bio-remediation of Heavy Metal Contaminated Water.*

I will discuss a one dimensional model of an adsorption based filter 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). I will compare the model's predictions to data obtained experimentally by our lab group. I will discuss using this model to design filters. (Received September 23, 2018)