

1125-VM-2980      **Chris McCarthy\*** ([cmccarthy@bmcc.cuny.edu](mailto:cmccarthy@bmcc.cuny.edu)), Borough of Manhattan Community College CUNY, Department of Mathematics, 199 Chambers Street, New York, NY 10007. *Mathematical models of condensation, adsorption, and filters.*

I will discuss kinetic models of condensation and adsorption, as well as models of filters based on those mechanisms.

These mathematical models have been developed in support of our interdisciplinary lab group, which is centered at BMCC/CUNY (City University of New York). 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.

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