Scientists have identified three possible gene sequences for a critical enzyme, carnitine acetyltransferase, that is involved in acetate metabolism. Dasgupta is using CRISPR-Cas9 gene editing technology to study the role of this enzyme in the virulence of the fungus C. neoformans. Gene knockouts of the enzyme will aid in understanding the pathogenesis of fungal meningitis in individuals with compromised immune systems.

Since her sophomore year, Dasgupta has been conducting research in the lab of Genetics and Biological sciences junior Shaoni Dasgupta is a 2020 Beckman Scholar.