

MSIS-Ledder: Empowering Future Physicians: Modeling Disease Transmission with NetLogo to Encourage Mathematical Reasoning

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In this presentation, I will explore the practical application of mathematical modeling in NetLogo to foster essential mathematical and quantitative reasoning skills among non-mathematics undergraduate students. I will cover a range of projects spanning various biological domains, including modeling the transmission of infectious diseases, examining bacterial growth patterns, and engaging liberal arts students in diverse dynamical modeling scenarios within the NetLogo framework. As I discuss these experiences, I will emphasize how my collaborative work with a pre-medical student and other undergraduates has played a crucial role in equipping them with vital analytical proficiencies, thereby contributing to their development as more well-rounded and capable future medical professionals.