

Engaging Undergraduates in Research in Mathematical Biology with Limited Resources

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How does one attract undergraduate students to engage in research in mathematical biology at an institution at which there are not specific introductory courses in the field? How does one help bring students who have just completed a first course in calculus to the point at which they can productively begin to research in mathematical biology? This presentation will address these questions. In particular, we will talk about student recruitment and selection and the mathematical and biological preparation needed to help students with minimal mathematical background develop the analytical and computational skills needed for research in ecological and epidemiological areas. We illustrate how using agent-based models can serve as entrance way into using the analytical tools of impulsive differential equations and difference equations for modeling. Examples of recent student projects will be highlighted.