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**Becky Sanft\*** ([bsanft@unca.edu](mailto:bsanft@unca.edu)), Asheville, NC 28804. *Merging Mathematical Models and Data to Study Biological Systems.*

Mathematical modeling is inherently collaborative and often requires a breadth of tools, including formulating mathematical equations to model a system, using computational methods to solve the model, and applying statistical techniques to calibrate the model to data and to validate the model. In this talk, I will provide an overview of the approaches and challenges of merging data and models in my research area of modeling growth in elastic tissues to understand the mechanical response of arteries. I will also discuss my approach to actively engage students in the process of modeling through a collection of case studies and wet labs connecting mathematical models to real data. This work is found in *Exploring Mathematical Modeling in Biology Through Case Studies and Experimental Activities*, a text that emanated from a course that I co-taught with a biologist at St. Olaf College. (Received January 14, 2022)