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Eric J Kostelich* (kostelich@asu.edu), School of Mathematical & Statistical Sciences, Box 871804, Arizona State University, Tempe, AZ 85287. *Prediction, Data Assimilation, and Uncertainty Quantification in Cancer Dynamics.*

Contemporary weather forecast systems are a triumph of modern science. Accurate predictions of complex atmospheric dynamics (e.g., Hurricanes Sandy and Harvey) have saved many lives. Can similar mathematical approaches be developed for prediction of complex biological dynamics, such as the evolution of cancerous tumors, in specific patient cases? My talk will outline some of the necessary ingredients in addition to the development of the mathematical models themselves, including observation operators, data assimilation methods, and quantifications of prediction accuracy. (Received February 04, 2018)