1139-92-209   **Andrea Arnold*** (`anarnold@wpi.edu`). *Time-Varying Parameter Estimation for Biological Systems.*

Many applications in the life sciences involve unknown system parameters that must be estimated using little to no prior information. In addition, these parameters may be time-varying and possibly subject to structural characteristics such as periodicity. We show how nonlinear Bayesian filtering techniques can be employed to estimate time-varying parameters, while naturally providing a measure of uncertainty in the estimation. Results are demonstrated using data from several biological applications. (Received February 11, 2018)