Ed Gallaher will discuss two prototype structures. (i) The familiar first-order delay structure illustrates drug absorption and metabolism, with examples from physiology, pharmacology, and endocrinology. (ii) The conjugate equilibrium (CE) model is less familiar; two stocks (A and B) interconvert in a zero-sum process; (A+B = 1). Despite two stocks, the CE model surprisingly exhibits first-order dynamics. CE applies to ligand-receptor binding, oil-water partition coefficients, and enzyme kinetics. Mixing and matching these two structures creates a foundation for increasingly complex biological models. Visit our website for details and lively discussions, and as appropriate, apply these models to your current topics of interest.