Workshop on Modeling and Analysis of Biological Regulatory Networks

Francis J. Doyle III
Department of Chemical Engineering
University of California
Santa Barbara, CA 93106

Michael A. Henson*
Department of Chemical Engineering
University of Massachusetts
Amherst, MA 01003-9303

Prepared for the 2006 American Control Conference
June 23, 2005

Proposed Outline for One Day Workshop

- 8:30–8:45 — Course overview (Doyle)
- 8:45–9:30 — Review of genetic regulation (Doyle)
- 9:30-10:15 — Modeling of gene regulatory and signal transduction networks (Doyle)
- 10:15–10:45 — Break
- 10:45–11:15 — Case study: lambda phage (Doyle)
- 11:15–12:00 — Case study: circadian rhythm (Doyle)
- 12:00–12:30 — Case study: cell cycle (Henson)
- 12:30–1:30 — Lunch
- 1:30–2:15 — Review of metabolic regulation (Henson)
- 2:15–3:00 — Modeling of metabolic networks (Henson)
- 3:00–3:30 — Break
- 3:30–4:00 — Case study: energy metabolism (Henson)
- 4:00–4:45 — Metabolic flux and control analysis (Henson)
- 4:45–5:30 — Case study: whole cell metabolism (Henson)

*To who correspondence should be addressed: Phone: 413-545-3481; Fax: 413-545-1647; E-mail: henson@ecs.umass.edu