



## DISC Summer School on Modeling and Control of Hybrid Systems

### Slides of the presentations

- Lectures of [prof. C.G. Cassandras](#)
  - Introduction to the field of hybrid systems: origins, examples and applications ([pdf, 1.3M](#))
  - Modeling of hybrid systems ([pdf, 585K](#))
  - Optimal control of hybrid systems: deterministic models and applications ([pdf, 736K](#))
  - Optimal control of hybrid systems: stochastic models and applications ([pdf, 930K](#))
  - Wrap-up session ([pdf, 167K](#))
- Lectures of [prof. G.J. Pappas](#)
  - Introduction to hybrid systems theory and applications ([pdf, 3.5M](#))
  - Transitions systems, temporal logic, refinement notions ([pdf, 3.2M](#))
  - Discrete abstractions of hybrid systems for verification ([pdf, 4.0M](#))
  - Discrete abstractions of continuous systems for control ([pdf, 3.3M](#))
  - Bisimilar control systems ([pdf, 2.9M](#))
- Lectures of [prof. D. Liberzon](#)
  - Stability of switched systems ([pdf, 269K](#))
  - Quantized systems and control ([pdf, 295K](#))
  - Switching control of uncertain systems ([pdf, 974K](#))
- Lectures of [prof. A. Bemporad](#)
  - Models for analysis and control design ([pdf, 1.1M](#))
  - Identification of hybrid systems ([pdf, 824K](#))
  - Model Predictive Control of hybrid systems ([pdf, 1.9M](#))
  - Reachability and observability analysis of hybrid systems ([pdf, 923K](#))
- Lectures of [prof. K.G. Larsen](#)
  - Timed automata and model checking ([pdf, 1.4M](#))
  - Timed automata and optimal scheduling and control ([pdf, 1.6M](#))
- Lectures of [prof. J. Lunze](#)
  - Discrete-event modeling and diagnosis of quantized systems ([ps, 17M](#))
- Lectures of [dr. P. Mosterman](#)
  - Mode transition behavior in hybrid dynamic systems ([pdf, 506K](#))
  - Simulation technologies for hybrid dynamic systems ([pdf, 419K](#); [pdf, 419K](#))
- Lectures of [prof. F.W. Vaandrager](#)
  - Hybrid I/O automata ([ps, 1010K](#); [pdf, 149K](#))