

*IPM-POLYTECHNIQUE-WPI Workshop on Bioinformatics and Biomathematics,
April 11-21, 2005, IPM, Tehran*

Formal Grammars and Structural Models I and II

(2 Lectures)

J.-M. Steyaert

*Ecole Polytechnique
Paris, France*

We have proposed a formal framework to express, model and retrieve efficiently a number of secondary structures. It is based on an improved version of automata (deterministic or stochastic) and grammars with special attributes that allow to express quantitative estimates of the robustness or accuracy of the proposed structure. We will explain the general framework, give examples, and show how it can be used to predict various structures for RNAs, proteins of a certain kind, etc.