



DIPARTIMENTO
DI INFORMATICA
SAPIENZA
UNIVERSITÀ DI ROMA

DISTINGUISHED LECTURE



Lecturer: Prof. Jeffrey D. Ullman
(Stanford W. Ascherman Professor of
Computer Science)
Title: Abstractions and Their Compilers
Location: [Zoom meeting](#)
Date: September 16, 2021
Time: 17.00-18.00 (CET)

Abstract: An abstraction in computer science is a data model plus a "programming language"; the language is often far simpler than a general-purpose programming language. We shall consider four different ways that abstractions have been used. Especially important are "declarative abstractions," where you say what you want done but not how to do it. These abstractions require clever compilation, including some powerful optimization techniques, if they are to be used in practice. We shall talk about three such declarative abstractions: regular expressions, and their compilation into finite automata, context-free grammars and their compilation into shift-reduce parsers, and the relational model of data, and its compilation into executable code.