Grammar theory is well-known for being a useful and mature instrument to investigate the structure of software: since software languages often turn out to be infinite, it is useful to have those reflected and defined by finite specifications (i.e., grammars). However, structural commitments have a much broader scope than textual syntactic conformance. Protocols, data types, schemata, API, metamodels, etc can be viewed as grammars in a broad sense. Such a uniform view allows us to develop methods (almost) universally applicable to various areas of software language engineering, and --- even more interestingly --- investigate and enforce consistency across several definitions of the same intended language.

In this talk, we will show various examples of grammars in a broad sense, as well as techniques that work on them. In particular, the focus will be on programmable grammar transformation, grammar mutation and grammar convergence.

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