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"Dynamical Theories of Language Production: Langue and Parole in Optimality Theory and Articulatory Phonology"

The scientific study of speech communication extends from work on phonological grammars, in theories like Optimality Theory (OT) and Articulatory Phonology (AP), and work on the machine learning of patterns in highly variable parole in the speech recognition industry. The goal of this talk will be to argue that the dynamical nature of OT and AP, which will be introduced in a novel way, makes them highly amenable to inform and be informed by the machine learning approaches to modeling speech in a natural context. A framework of stochastic dynamical systems will be introduced and shown to encompass our current theories of langue and parole.