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## NONLINEAR TIME-DELAY SYSTEMS

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New information and communications technologies render very accessible and popular smart devices using GPS information or more generally satellite communication. Remote control, teleoperation are developed in various domains. These operations yield delays in the transmission of information. Ignoring those delays may decrease the performance of the overall system or just destabilize it. Thus, it is mandatory to take those delays into account in many cases.

In addition, the theory of delay free nonlinear control systems was the heart of a major success story at the end of last century thanks to the so-called differential geometric approach.

In this talk, we intend to display some hints and recent advances to fill the gap between finite dimensional delay free nonlinear systems and infinite dimensional nonlinear time delay systems. Fundamental properties are considered as accessibility of those systems. Interesting mathematical properties are hidden in this research area as well as very pragmatic engineering solutions to design control solutions.