



Biological systems are self-organized systems made from molecules that can sense their environment, make decisions, produce materials, move, grow and even replicate.

Both for fundamental reasons and in terms of engineering applications it is of great interest to realize artificial systems that have at least some of these properties.

In this talk, several approaches towards engineered synthetic biological systems will be discussed.

Specifically, we will address the construction of artificial molecular machines and devices from DNA and RNA molecules, the generation of artificial cell-scale systems and the realization of RNA-based synthetic gene regulatory circuits.

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## Construction of synthetic biological systems using DNA and RNA



UNIVERSITÀ DEGLI STUDI DI MILANO  
DOTTORATO DI RICERCA IN FISICA  
ASTROFISICA E FISICA APPLICATA

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