

Seminario: 18/02/2020, ore 15.00, Aula HT6-1 Incubatore d'Impresa

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From artificial atoms to quantum computers

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Quantum computers are machines that could perform specific calculations that our existing classical computer cannot. Among several proposed platforms to build a quantum computer, only one has reached an important level of maturity, superconducting qubits [1]. In this talk I will show how a quantum bit is made, and how a quantum computer is built using superconducting circuits. Furthermore, I will discuss the main problems that affect quantum computers and that, till now, prevent the possibility to have a practical advantage respect the classical ones.

[1] Arute, F., et al. "Quantum supremacy using a programmable superconducting processor." *Nature* 574.7779 (2019): 505-510.