

**The chemostat: a laboratory device for continuous
culture of microorganisms and an ecosystem abstraction**

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Abstract

Invented by J. Monod, and independently by A. Novick and L. Szilard in 1950, the chemostat is both a laboratory device for continuous culture of microorganisms and an abstraction (mathematical model) of an ecosystem crossed by a nutrient flow. It is used today in scientific fields related to the acquisition of knowledge that is both fundamental, such as ecology or evolutionary biology, and applied, such as water treatment, the energy valorization of biomass, and biotechnology in general.

In this talk, we give a description of the mathematical model of competition between several species of microorganisms in the chemostat.

Mathematics Subject Classification : 34C23, 34D20.

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