

## عنوان مقاله:

Investigation of the quantity of crude oil degrading bacteria in contaminated areas in Masjed Soleyman

## محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

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## خلاصه مقاله:

**Introduction and Objectives:** Today, petroleum products such as gasoline and petrol have produced high levels of environmental pollution in comparison with other chemicals and through accidents, oil industry activities in the sea and in the coast, exploration and storage of fuel, hydrocarbons It is released into the environment and causes oil pollution. Biodegradation of Crude oil contaminants by bacteria is an important economic approach to the revival of oil-polluted sites. **Materials and Methods:** Sampling from 7 contaminated areas including Bibiyan and the foreign school in Masjed Soleyman. After determining the abundance of bacterial populations by CFU and MPN methods and enrichment in Bushnell-Hass medium, isolation and identification of bacteria were performed using biochemical and molecular methods. And using the 16S rRNA sequence, the top strain of the parser was approved. **Results:** After two weeks of screening for strain E belonging to the foreign school district and the D-strain belonging to the Bibiyan district, they respectively belonged to the genus *Arthrobacter citreus* and *Rhodococcus jostii*, which were identified as the superior degrading bacteria. The superior degradation after the sequential treatment reduced the decomposition time from ten days to two days. Crude oil degradation was reported in a mixture of more than 90%. **Conclusion:** The mixed cultures of these bacteria with the help of nutrients showed a high ability to remove Crude oil. The frequency of bacteria in the infected areas is high and by identifying the genes and enzymes involved in the analysis of the genetic manipulation potential of these strains and the transfer of active genes to other indigenous bacteria in the region to facilitate and accelerate degradation.

## کلمات کلیدی:

Bacteria, Biodegradation, Oil pollution, Crude oil

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