Federation of European Microbiological Societies

FEMS Online Conference on Microbiology

28 – 31 October 2020

ELECTRONIC ABSTRACT BOOK

in association with the Serbian Society of Microbiology

Federation of European Microbiological Societies

FEMS Online Conference on Microbiology

28 – 31 October 2020

in association with the Serbian Society of Microbiology

FEMS COMMITTEES

SCIENTIFIC COMMITTEE

Bauke Oudega Chairperson (FEMS Past President)	The Netherlands
Dragojlo Obradović Co-chair (SSM President)	Serbia
Hilary Lappin-Scott (FEMS President)	UK
Nataša Opavski (SSM)	Serbia
Aleksandar Džamić (SSM)	Serbia
Tanja Jovanović (SSM)	Serbia
Jelena Begović (SSM)	Serbia
Branislava Kocić (SSM)	Serbia
Deana Medić (SSM)	Serbia
Nenad Milić (SSM)	Serbia
Siniša Markov (SSM)	Serbia
Dragoslava Radin (SSM)	Serbia
Galina Satchanska	Bulgaria
Nikola Panovski	North Macedonia
Anna Papa-Konidari	Greece
Roberto Antolović	Croatia
Maja Rupnik	Slovenia
Nijaz Tihić	Bosnia & Herzegovina
Gordana Mijović	Montenegro
Patrik Bavoil	USA
Stefano Donadio	Italy
Alain Filloux	UK
Eliora Ron	Israel
Andriy Sibirny	Ukraine
Özgür Kurt	Turkey
Alexandru Rafila	Romania
Andi Koraqi	Albania
Helena Bujdáková	Slovakia
Carianne Buurmeijer (FEMS)	The Netherlands

ORGANIZING COMMITTEE

Vaso Taleski Chairperson (FEMS, Director of Events & Internationalization)	North Macedonia
Lazar Ranin Co-chair (SSM)	Serbia
Colin Harwood (FEMS)	UK
Miroslav Vrvić (SSM)	Serbia
Ivan M. Jekić (Aria.ONE)	Serbia
Matthew Harvey (FEMS)	The Netherlands
Ina Gajić (SSM)	Serbia

GRANTS COMMITTEE

Jozef Anné Chairperson (FEMS)	Belgium
Slaviša Stanković (SSM)	Serbia
Alexander Netrusov	Russia

MICROBIAL DEGRADATION OF PETROLEUM HYDROCARBONS – IN VITRO STUDY

A. Žerađanin[1], N. Petrović[2], K. Joksimović[1], J. Avdalović[1], S. Miletić[1], N. Lugonja[1], V. Beškoski[2]

1 Univeristy of Belgrade, Institute of Chemistry, Technology and Metallurgy, Njegoseva 12, 11000 Belgrade, Serbia
2 University of Belgrade- Faculty of Chemistry, Studentski trg 16, 11000 Belgrade, Serbia

Pollution of the environment by petroleum products is a global problem, since its extensive exploitation in broad areas. Microorganisms can degrade or transform toxic, petroleum derivates into harmless products with high efficiency. This study aimed to investigate the biodegradation process of petroleum hydrocarbons in contaminated sediment using indigenous and a combination of indigenous and allochthonous microorganisms.

The allochthonous microorganisms that were added belonged to the genera Acinetobacter and Citrobacter. The experiment lasted two weeks, and the degradation process took place in a closed vessel on a Micro-Oxymax respirometer. Total petroleum hydrocarbons (TPH) were extracted and determined using a gas chromatograph with a flame ionization detector. The number of microorganisms at the beginning and end of the experiment was also determined.
The results on the respirometer and gas chromatography indicated that the microorganisms were metabolically active. Indigenous microorganisms reduce the amount of TPH by 32.0% and the combination of indigenous-allochthonous microorganisms by 33.6%. The results showed that there is no significant difference between the application of autochthonous and the combination of indigenous-allochthonous microorganisms for the reduction of TPH in contaminated sediment, suggesting a high potential of autochthonous microorganisms for bioremediation processes.

International Standard Book Number (ISBN)

Assigned number

ISBN-978-86-914897-6-2

Federation of European Microbiological Societies

FEMS Online Conference on Microbiology

28 – 31 October 2020

in association with the Serbian Society of Microbiology

Federation of European Microbiological Societies

www.fems-microbiology.org

UDRUŽENJE MIKROBIOLOGA SRBIJE

www.mikrobiologijars.org