

CHEM 2 CHANGE

ENVIRONMENTAL CHEMISTRY
TOWARDS GLOBAL CHANGE

**2nd Online ACE Seminar
on Chemistry and the Environment**
led by Early-career scientists

15 - 16 March 2022

BOOK OF ABSTRACTS

Book of abstracts:

Chem2Change

Environmental Chemistry towards Global Change

2nd Online ACE Seminar on Chemistry and the Environment Led by Early-Career Scientists

15-16 March 2022

On-line meeting

Organised by:

Association of Chemistry and the Environment

Edited by:

Dr. Lydia Niemi

Dr. Szabolcs Pap

Dr. Franja Prosenc

Urška Šunta, M.Sc.

Ing. Frederika Mišíková

doc. Ing. Anna Krejčová, Ph.D.

Bc. Marek Tykva

Dr. Gordana Gajica

Slađana Savić, M.Sc.

Cover design:

Tina Jeler

Published by:

University of Pardubice

Publication year:

2022

ISBN 978-80-7560-406-4 (pdf)

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- Dr. Gordana Gajica, University of Belgrade, Serbia
- Slađana Savić, M.Sc., University of Belgrade, Serbia

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SESSION 1.

Global Challenges:

Corona Virus, Climate & Nature Restoration

PHYTOREMEDIATION OF INDOOR AIR: DOES NATURAL MECHANISMS APPLICATION REPRESENT THE FUTURE OF SUSTAINABLE TECHNOLOGIES?

Katarina Antić¹, Tatjana Šolević Knudsen², Milena Stošić¹, Jelena Radonić¹

¹*University of Novi Sad, Faculty of Technical Sciences, Department of Environmental Engineering and Occupational Safety and Health, Dositej Obradović Square 6, 21101 Novi Sad, Serbia, antickatarinaa@gmail.com*

²*University of Belgrade, Institute of Chemistry, Technology and Metallurgy, Department of Chemistry, Njegoševa 12, 11000 Belgrade, Serbia, tsolevic@chem.bg.ac.rs*

The majority of the world's population is exposed to highly polluted air, with parameters exceeding the World Health Organization's guidelines. In humans, this condition causes a wide variety of diseases, leading to increased morbidity and mortality. The emergence of the SARS-CoV-2 virus pandemic, which is associated with a high transmission rate, exacerbated the global situation. Aerosol particles containing the SARS-CoV-2 virions are the primary transmission sources, and the risk of increased infection rates is certain indoors. Air purification and bio-decontamination using techniques such as filtration and radiation play a significant role in mitigating the virus's spread. These methods include HEPA filters, UV radiation, and ionization usage. However, these methods are costly and hard to implement in the indoor environment. Phytoremediation, an environmentally acceptable, cost-effective, and non-invasive air purification method, is becoming increasingly researched and developed. Indoor plants are considered natural filters since they can purify the air from pollutants and pathogens using methods of absorption, dilution, precipitation, and filtration depending on their morphology, growth state, and the presence of microbial communities. Plants can significantly reduce transmission of SARS-CoV-2 by affecting the lipid mantle and decreasing virus stability through modulating indoor relative humidity. Indoor air phytoremediation requires the proper selection of plant species and optimized growth conditions. This method is flexible in various environments without any need for special investments, with the potential addition of aesthetic value.

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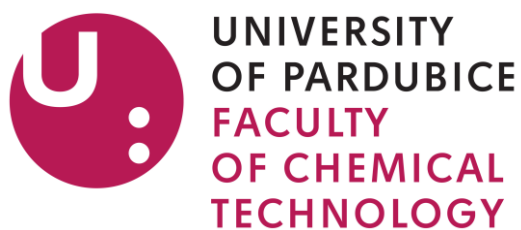
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FOR YOUR PARTICIPATION!

ISBN 978-80-7560-406-4 (pdf)